INDIA RUBBER WORLD
CAOUTCHOUC GUTTA-PERCHA

Published on the 1st of each Month by

THE INDIA RUBBER PUBLISHING CO.

No. 150 NASSAU ST., NEW YORK.

HENRY C. PEARSON, EDITOR. HAWTHORNE HILL, ASSOCIATE.

Vol. 28. JULY 1, 1903. No. 4.

SUBSCRIPTIONS: $3.00 per year, $1.75 for six months, postpaid, for the United States and Canada. Foreign countries, same price. Special Rates for Clubs of five, ten or more subscribers.

ADVERTISING: Rates will be made known on application.

REMITTANCES: Should always be made by bank draft, Post Office Orders or Express Money orders on New York, payable to THE INDIA RUBBER PUBLISHING COMPANY. Remittances for foreign subscriptions should be sent by International Post order, payable as above.

DISCONTINUANCES: Yearly orders for subscriptions and advertising are regarded as permanent, and after the first twelve months they will be discontinued only at the request of the subscriber or advertiser. Bills are rendered promptly at the beginning of each period, and thereby our patrons have due notice of continuance.

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Entered at New York Post Office as mail matter of the second-class.

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MR. CHAMBERLAIN'S PROPOSALS.

THE proposal by the British colonial secretary of the principle of preferential tariffs as between the different parts of the empire, if given practical effect, would prove of more consequence than any economic program that could be adopted by any other country, on account of Great Britain's preëminence to-day in the world's commerce. Indeed, the abolition of the principle of free trade in the country of its origin would mark the beginning of a readjustment of the relations to each other of the commercial powers.

But Mr. Chamberlain's scheme remains to be adopted, even on paper. And something more than statutory enactment would be needed to give it effect. The real problem before this brilliant English statesman is not to gain the support of his government for his policy, or even to win the adherence of the voters. The question is whether, under any circumstances, the thing which he aims at can be done—that is, can the British dominions beyond the seas replace the rest of the world in supplying the markets of the mother country with food and raw materials?

To illustrate the problem we may observe that, though Canada already admits British manufactures under a preferential tariff, while high duties are imposed by the United States, Great Britain continues to buy wheat in the latter country, as if Canada had not large areas suited for wheat growing. The Canadians feel that, in view of their loyalty to the empire, some reciprocal sentiment should lead the mother country to adopt a policy helpful to their colony. The fact that the United States so largely supply England with wheat to day means that, on an even basis, Canada cannot compete in that market. Hence the demand for a discriminating tariff in favor of the Canadian farmer. The result would be a higher cost of bread in England for a long time to come, with no probability that the increased price would soon largely develop wheat growing in Canada.

Before Canada can supply Great Britain with wheat there must be a vast addition to her agricultural population; great areas now forest covered must be settled and brought under cultivation—a task in itself for a generation, before the new districts could do more than supply themselves with food. Canada has good wheat lands, but wheat farming is not the end of existence, and millions of people cannot be expected to make their homes in a given district merely to produce wheat for the Liverpool markets, even if thereby the ties that bind an empire together are strengthened and the ambitions of a colonial secretary furthered. If the conditions of life in rural Canada otherwise do not appeal to people, they may prefer, in order to live elsewhere, to do something else than grow wheat. Besides, their position would be precarious if dependent upon the maintenance of a food tax in England, which might be swept away any day by a change of sentiment among the voters.

Neither Mr. Chamberlain nor all England can change the location of wheat production on the world's surface as figures are moved on a chess board. England has tried long and in vain to transfer the sources of her cotton sup-

plies to India, but that country is less suited to cotton than the southern United States; the Straits Settlements may yet supply English factories with India-rubber, because better suited than the Amazon valley as a home for the white races; but the time has not arrived when by a mere act of parliament she can make Canada and Australia her chief purveyors of food, for the reasons given above and others. For these reasons the people of the United States have given little concern to the proposed new British tariff scheme.

It may be added that the pending tariff legislation in Germany will succeed, if at all, through the support of the farming element there, which is assured protection no less than the manufacturers. But if, as the ultimate result, dearer food is threatened, the whole tariff proposal may fall to the ground. The first requisite of every country is food—at the lowest possible cost—and the most favorable circumstance for the United States, bearing upon their future as an industrial power, is that the country is dependent upon no other for food, but always has a surplus for export.

RUBBER AND THE CONGO SYSTEM.

THE king of the Belgians was reported lately to be about to visit London, on account of the action of the British parliament calling for a conference of the Powers in relation to his administration of the Congo Free State. King Leopold in London may be able to influence the tenor of the note which King Edward's government is about to send to the various parties to the treaty upon which the Congo state is based. Or later, wherever he may be, he may be able to offer a defense satisfactory to the Powers. But apart from considerations of civilization and of free trade on the Congo, the question is involved of the future supply of rubber—for rubber really is the *raison d'etre* of the Congo Free State.

It will be remembered that the state, having declared the whole rubber region "public domain," undertakes to regulate the collection of rubber therein. The people of the country, having had a "civilized" government placed over them, must now pay taxes, and as they have no money and produce nothing else that the state can use, they are required to gather rubber to satisfy the tax collector. Besides, the state has granted concessions of large areas to trading companies on the basis of receiving half the profits. The native is not allowed to tap rubber vines except to pay his taxes, or for sale to the trading companies. In either event he is working for the state; the price for his rubber is fixed, and fixed very low, because there can be no competitive buyers. The blacks have shown so little inclination to work under these conditions that the state has been obliged to provide a large armed force to give them an incentive—an armed force, by the way, composed always of natives of some other tribe than the workers to be persuaded, unfriendly to them, and glad to become their oppressors. It is by such severe measures that the output of rubber from the Congo Free State has been increased within a few years from *nil* to more than is produced in any other country except Brazil, whose rubber trade has existed for eighty years. Another explanation of the rapid growth of the Congo trade is that under the monopoly system such enormous profits have been made as to spur the controlling spirits to their utmost efforts.

The rubber consumer may or may not be concerned about the cruelty of this system, forced upon helpless and unoffending natives; he may be indifferent to who profits from the initial handling of the rubber. He cannot be indifferent long, however, to the exhaustion of rubber which the Congo system is bringing about. The natives do not gather rubber long in one spot; the same vine does not long survive the heavy tapping necessary to meet the combined requirements of a state hungry for taxes and European companies hungry for dividends. Already the dividends earned have repaid many times the original investment of capital, and when no more rubber can be found the companies can well afford to retire from the field, leaving only the rubber trade to suffer.

The state, it is true, has given orders to guard against exhausting the rubber, but this very action is proof that the native supply is being killed off. The law requires that for every 15 pounds of rubber exported a new rubber vine shall be planted. But the law does not require that these vines shall be forced to grow, or that anybody shall stay and care for them 15 or 20 years, while this slow growing species is becoming productive. Really very little is known yet about the practicability of cultivating the *Landolphia*, and of all projects yet suggested for rubber cultivation, this compulsory wholesale planting on the unsalubrious Congo is the least promising. The probability is that, when the wild rubber is all gone, the planted slips or seedlings will be speedily deserted.

The one hopeful feature of the case is that the Congo system has not spread to other rubber regions. French Congo—across the great river from King Leopold's domain—was parcelled out among *concessionaire* companies after the great profits of the Belgian companies became known, but no such profits were realized there, and many of the concessions have been abandoned. The result might have been different if armed rifles had been used to persuade the French Congo natives to gather rubber, and, when it was gathered, to accept a penny a pound for it. Fortunately for the rubber industry, the forests there remain largely unexplored and the same is still true of some other parts of Africa. It is better for the world that this rubber should thus remain in reserve, against the time when the Congo Free State shall no longer yield rubber. Then, when the craze produced by yearly dividends from rubber of 100 to 500 per cent. is over, and the world is forced to look elsewhere for new supplies, perhaps the new fields will be opened under conditions that will insure a permanent yield, instead of the wasteful system which now feeds the Antwerp market.

THERE IS NO NEED FOR WORRY over the future of the rubber supply. When all the known sources have become exhausted rubber will still be as plentiful as it is now. Science is progressive, and before the limit of its development is reached,

doubtless it will be found that caoutchouc is the basis of all matter. The world no longer is dependent for rubber upon the trees of the Amazon valley, for quite as much is now obtained from vines and even from underground creepers in Africa. But there is a promise that our manufacturers may not have to send abroad at all for their raw material. Listen to Mr. William F. Blair, who is vouched for by the New York *Times* as an authority, "who spends several months each year in the Orinoco basin looking after the affairs of American rubber firms." He finds time to remark: "It is not generally known that a product may be extracted from corn cobs which, by mixture with other chemicals, gives very good rubber." Did you know that corn cobs were chemicals? Think how much has been lost by the fact not being known generally; thousands of millions of corn cobs wasted that might have been converted into very good rubber. It is true Mr. Blair says: "But repeated experiments demonstrated that it cost so much to make that it was useless to compete with the South American article." Never mind that; think of the repeated experiments that failed to discourage Charles Goodyear. He kept on experimenting. It is enough to know that corn cobs contain very good rubber. A cheap way of extracting it is sure to come. Next we expect that, by mixing worn out street paving blocks with other chemicals, more very good rubber may be made. But don't neglect the corn cobs.

THE OPENING OF THE NEW PACIFIC CABLE, scheduled to occur within the next few days, will score a new triumph for American enterprise, even if the cable itself was manufactured in a foreign country. No other submarine cable of equal magnitude was ever projected and carried to completion by purely private enterprise—it was practically the work of one man—and none other was completed in so short a time from the date of the original undertaking. It may not at once begin to yield a profitable return, but there can be no doubt the new line will contribute to an important degree to the development of commercial interests on the Pacific, "the ocean of the future." Among the immediate results will be the competitive influence of the new line tending to reduce cable tolls to the Far West, as Americans now consider Asia. A word must also be said of the results of Mr. Mackay's enterprise in proving the greater efficiency of private enterprise in an undertaking of this kind than of governmental initiative and control.

THE NEWS WAS CABLED ACROSS THE ATLANTIC during the month, of the discovery of a new source of rubber, and the journals which headlined the report "It May Revolutionize the World's Rubber Industry" took their cue from the wording of the despatch. It happens that the plants referred to, which yield rubber underground, are those illustrated in the May issue of this paper—not new, and likely soon to become exterminated. The days are over for sensational "finds" of rubber, except on paper.

THE HIGH PRICE OF COTTON, which threatens just now to affect the rubber industry to an inconvenient degree, is wholly a result of speculation, which has been conducted of late on a more extensive scale than was ever before known. The New York *Journal of Commerce* points out that one effect of such cotton "corners" will be to encourage the efforts now making in many countries to render the world less dependent upon the United States for raw cotton, the export of which has added so much to our national wealth. As giving point to the *Journal's* suggestion, we may add that Great Britain last year imported 355,000,000 pounds of cotton from Egypt and considerable quantities from Brazil and India. Already numerous cotton mills exist in the latter two countries, consuming a large local production of the raw material. Meanwhile Germany and other powers are striving to develop the growth of cotton in their African colonies, with encouraging results to date. Ultimately the rubber manufacturers will not be restricted to the use of American cottons.

OBITUARY.

F. O. KETTERLING, who died in Chicago on May 21, had been the manager since November, 1892, of the Chicago selling agency of the Lycoming Rubber Co. (Williamsport, Pa.) He was born in 1858 at Monroe, Illinois, and graduated from the academy at that place, after which he entered business in Chicago. In December, 1901, The Standard Rubber Shoe Co. was incorporated, with Mr. Ketterling as president and manager, taking on the sale in Chicago not only of the Lycoming, but of the Meyer and Jersey brands of footwear made by the United States Rubber Co. The funeral services, on May 23, were conducted by Lincoln Park commandery, Knights Templar. At a special meeting of the Shoe and Leather Association of Chicago, on May 26, a suitable memorial was adopted. Mr. Ketterling is survived by a widow and a son and by three brothers and three sisters.

=Francis H. Holton, Jr., died of tuberculosis at his home, in Akron, Ohio, on June 8, at the age of 47. He was for several years connected with the factory of The B. F. Goodrich Co., and later with the Faultless Rubber Co. Funeral services were held at Akron on the day following, and the interment was in Greenwood cemetery, Brooklyn, New York. Mrs. Holton and two children survive. Mr. Holton's father, Francis H. Holton, who is widely known in the rubber industry, has been engaged actively in it for most of the time since 1854.

NEW TRADE PUBLICATIONS.

THE B. F. GOODRICH CO. (Akron, Ohio) issue an illustrated catalogue of Newer Surgical Rubber Specialties, representing the product of their "surgical department," established about a year ago in recognition of the increasing uses for rubber goods by the medical profession. This is not a mere catalogue of "druggists' sundries" in the ordinary sense, but much more. While including the older lines of druggists' goods, this catalogue is devoted chiefly to special products, perfected with the coöperation of members of the medical profession, a number of whom are named in the catalogue in connection with the articles suggested by them to meet wants which have arisen in their practice. The catalogue thus contains a number of articles not to be found in any other trade list, many of them being of a character not produced, to our knowledge, in any other rubber factory, which makes the book a distinct contribution to the literature of rubber. [5¾″ × 8½″. 47 pages.

G & J TIRE CO. (Indianapolis, Indiana) issue a booklet descriptive of G & J Tires, for automobiles, motor cycles, and driving wagons, of the detachable type, fitted to their standard rims, with prices; also the G & J motor valves—all satisfactorily illustrated. [5″ × 7″. 12 pages.]——They issue also a special Telegraph Code, designed to save no little expense in telegraphic orders for the company's tires and supplies. [4″ × 9″. 12 pages.]

NO small amount of rubber is called for in the manufacture annually in the United States, of several millions of baseballs The base of each one is a small solid ball of rubber, which is wrapped with woolen yarn, and then covered with leather.

CHICAGO-BOLIVIAN RUBBER CO.

THE Chicago-Bolivian Rubber Co., incorporated June 18, 1903, under the laws of Maine, with $1,500,000 capital, has been formed in the interests of the old company of the same name, incorporated under the laws of West Virginia. THE INDIA RUBBER WORLD is informed: "The new company will take over the Bolivian Rubber Estates and the business of the old company. The total capitalization remains the same—$1,500,000—but the common stock is reduced to $1,000,000, and the preferred (7 per cent. cumulative) is increased to $500,000. This has been done to provide additional working capital with which to handle the increasing business of the company, and to promote and further more approved methods of river navigation and transportation across the Andes generally."

The Chicago-Bolivian Rubber Co. began operations by acquiring and consolidating several rubber concessions on the Mapiri, Caca, and Béni rivers, in Bolivia, from which the shipment of rubber had already been started. This business has been extended by the company. The manager of their estates is George Merritt, who was interested in the development of some of the original concessions. The fiscal offices of the company in South America are at Sorata, Bolivia, located in the mountain pass through which communication is maintained between the rubber estates and Mollendo, on the Pacific coast.

VIEW OF SORATA, BOLIVIA.

The illustration herewith presents a view of Sorata—a town with a higher elevation than any other in South America—and it may be added that the building immediately behind the plaza which occupies the center of the picture is occupied by the Chicago-Bolivian Rubber Co. for office purposes and as quarters for the office force. The principal office of the company is at No. 170 Summer street, Boston, in charge of Arthur W. Stedman, general manager.

"MANJAK" AS A SUBSTITUTE FOR RUBBER.

THE commercial agent for Canada at Port of Spain, Trinidad, reports a rapid development in the mining of "Manjak" on that island. Up to very recently it was believed that manjak was applicable only to the manufacture of high class varnishes, and the demand, like the supply, was limited. Since the discovery of extensive mines of this article in Trinidad, however, and the certainty of a regular and large supply at a moderate price, other uses appear to have been discovered for it and a single order for 5000 tons, to be taken within a year, is reported. This order, it is understood, comes from a firm who believe that in manjak there will be found a marketable substitute for India-rubber, and who have erected a special plant for its treatment. While not so stated, it is to be inferred that the shipments are to be made to the United States. The agent writes that none of the material as yet has gone to Canada, though he commends it to manufacturers there interested in the production of insulating materials.

The asphaltum commercially known as manjak has been imported into the United States hitherto from Barbadoes. William H. Scheel (New York) reports that it is "largely used by manufacturers of varnishes. The goods are sold at from $45 to $65 per ton of 2000 pounds, according to quality, and usually come to this market packed in bags or barrels. The superior grade is brilliant and runs pretty free of sand or dirt."

RUBBER SUGGESTED FOR A BRIDGE FLOOR.

SOME of the New York newspapers of June 10 contained a statement to the effect that Bridge Commissioner Lindenthal, with the intention of making the new bridge over the East river as noiseless and dry as possible, had ordered "rubber dust" to be placed under the creoresinate wooden paving blocks that are to constitute the roadway. As this plan would be a radical innovation in bridge building, an INDIA RUBBER WORLD representative called upon the bridge commissioner for further information. Mr. Lindenthal pronounced the report erroneous, and declared that he had not thought of such a thing. He had seen the statement, but averred that there was nothing in it.

The idea of a rubber pavement or roadway, is not new, by the way. Captain T. Blashill, in an article on roadmaking in the "Encyclopedia Britannica" (Vol. XXXII), says: "For a perfectly noiseless pavement, such as is specially required where a carriage entrance under bedrooms is used by night, no substance is equal to India-rubber. For this purpose it is made in inch sheets about 3 feet wide and as long as the width of the roadway; it is fixed over concrete and secured by iron clips. This arrangement carries the whole of the passenger traffic to St. Pancreas station, London, and also a considerable amount of traffic under the Euston Square Station Hotel."

SOME WANTS OF THE RUBBER TRADE.

[291] FROM a Western jobbing house: "We are desirous of learning a process by which patches can be vulcanized on miscellaneous rubber articles by the use of acid."

[292] From Connecticut has been received an inquiry for a formula for quick curing stock for repairing tires.

[293] "I shall esteem it a favor if you will send me a list of concerns manufacturing vulcanite emery wheels."

[294] "Where can we obtain 'Glugloss Gelatine,' mentioned in Mr. Pearson's book, 'Crude Rubber and Compounding Ingredients'?"

[295] From a rubber jobbing house: "Can you inform us who makes rubber dice cups?"

[296] An inquirer writes: "I am desirous of getting a small vulcanizer for experimental purposes, and trust that you may be able to refer me to the party who will have just what I want."

[297] From a factory producing hard rubber rods and tubes, in electrical work, comes a request for the addresses of parties in New York or its vicinity who are prepared to fraze and polish the same, if sent to them in the rough.

[298] We have had several inquiries from persons desiring such tins are used in collecting rubber sap in Brazil.

RUBBER PLANTING ON THE ISTHMUS OF TEHUANTEPEC.

As Seen by the Editor of "The India Rubber World."

THIRD LETTER.

Clearing and Burning by Contract.—Danger from Fires.—Gathering *Castilloa* Seed.—Testing Seed.—Costly Seed Failures.—Track Walking under Difficulties.—The "Boston Rubber Tree."—Morning Glory Vines.—Arrival at Santa Lucretia.—A Condensed Milk Lesson.—Coatzacoalcos.—Sleeping in the "Bird Cage."—Up the Usapanapa and Chichigapa Rivers.—Plantation "Rubio."—A Fine "Bodega."—On Horseback Through Miles of Rubber.—The Tapping Problem.

THE planters in the Trinidad river district were so well informed, and so ready to impart their knowledge to one interested, that I felt as we journeyed back to "La Ventura" that I was getting a pretty good grasp on the rubber planting situation. I had learned, too, specifically, what clearing, burning, planting, lining, staking, and cleaning involved. Indeed, as luck would have it, I ran across some of the men who take the contracts for clearing at various times during my journey. In certain cases, the planters clear their own land. They prefer, however, to let it out by contract as it costs less, and is one less burden for them to bear. In Vera Cruz clearing is usually done between the middle of February and the last of April. The contractor brings a large force of men who fell everything, the axemen handling the big trees, and the many *machete* men lopping branches, cutting vines, and arranging all for a good burn. If the work is well done, and at the right time, the mass of fallen litter gets at least a month of hot dry weather, which dries out the fallen timber almost beyond belief, and gives weeds and climbers no chance to spring up. This part of the work is very important, because if a poor burn takes place, it involves the cutting and piling up of half burned tree trunks, and a second burning, which is costly. It is figured that in this work twenty-five men will clear about half an acre a day.

INTERIOR CAMP NO. 4, ON PLANTATION "RUBIO."

During the burning the planters are always on the watch to keep the fire from spreading, not into the virgin forest, but into adjacent plantings. The danger from fires carried by subterranean roots which may smoulder for days, and then burst into flame, is no slight one. Indeed, several cases have occurred where the fire has spread into cleared land, and destroyed many hundreds of valuable rubber trees. To cite one case in point, it might be well to recall the loss of the Varney Rubber Co., who had a plantation on the Tehuantepec railway and who lost 250 acres of two year old trees by fire in the dry season, said to have been started by sparks from a locomotive.

After the burn is finished the ground is full of roots, is open and spongy, and in just the right condition for the reception of seed. If this seed is put in so as to catch the early rain, it gets a good start before the torrential rains come, when the soil is pounded down hard. This is the reason that seed planting the second year is not apt to prosper, and why it is better then to transplant from a well equipped nursery. The earliest bloom of the *Castilloa* appears about the first of March, the seed ripening within sixty days, and is usually all gone thirty days later. The seeds are usually gathered as soon as ripe, and it is often a race between the planters and parrots to see which will get the most, as the latter are very fond of them. The seed is secured by knocking the cones off the branches of the trees with long poles. The cones are then put in water, and allowed to stand over night, when the gluten surrounding the seed slightly ferments. The mass is then placed in a sieve, and the pulp easily washed away. Then after a final washing, the floaters or unvitalized seeds are skimmed off, and the residue are dried on mats in the shade. As the vitality of the *Castilloa* seed is very slight, it is necessary to plant within a week or two at the longest. It might be well to note here that Mr. Harvey kept some seeds alive by packing in charcoal, and that they germinated when planted several months later, but no one but a trained horticulturist would be likely to be successful with such an experiment. With regard to the planting of the seed, it is well to remember that the first rains are often times followed by a week or two of dry weather. It is therefore best to wait until at least four inches of rain have fallen, that is, when planting in heavy soil, and to have a re-

WATER FRONT AT MANITITLAN.
[Copyrighted Photo by C. B. Waite, Mexico.]

HOTEL PALOMARES, MANITITLAN.
[Copyrighted Photo by C. B. Waite, Mexico.]

serve of seed saved for failures, either from drought, washouts, or lack of germination.

COMPARISON OF SEEDS.

ON one of the plantations I was shown the result of a very interesting experiment, which was designed to show why of two seeds, planted near each other in apparently equally favorable positions, one produced a vigorous tree, while the other produced a weakling. To determine this, the planter selected three sizes of seeds and planted them under equal conditions, supposing naturally that the largest seed would produce the most vigorous plant. He learned, however, that size had nothing to do with it, as in some cases the smallest seeds produced gave the best result. The real difference seems to be, therefore, in the inherent vitality of the seed itself. There are a great many ideas regarding the best way of planting the *Castilloa*, and there is no doubt but different methods are adapted for difference of situations. I am firmly convinced, however, that in the region I visited, by far the best method of planting is at the stake, backed up by a small nursery, in order that the failures may be made good. Any one who has seen two year old seedlings as against two year old nursery plants will, I think, agree with me.

Again and again was it impressed upon me how alert and careful the planter must be in preparing his ground, and especially in getting his seed at the right time, and getting it into the ground so that it shall have the proper start. And their knowledge has come through acknowledged failures. One good friend of mine bought a ton of seed at $1 a pound, and was unlucky enough to have it all spoil. Another cleared hundreds of acres for which he failed to get any seed, the clearing having to lie over until the year following, and these are but two of many instances which would discourage any but the most determined men. But such happenings do not reach the same man twice.

START FOR COATZACOALCOS.

ON our arrival at "La Ventura," mine host found a letter from a large planter down near Coatzacoalcos, inviting him to visit his place, and as that was just the direction in which I had planned to go, I resolved to embrace the chance to go with the best of guides. It therefore happened that early morning found us in the saddle, bound for Santa Rosa, but not over the trail by which I had come in. This time it was over a clear path, through the planted rubber trees, dipping down into the forest, and over a road with a soft carpet of matted leaves two or three feet deep, and as springy as if made of rubber—a new trail, and all on "La Ventura" land. On reaching the railroad we sent the horses back, and after waiting a while, hoping for a train which might, or might not, run that day, we started to walk towards Santa Lucretia, where the new road joins the National Tehuantepec railroad. Walking a railroad track under any circumstances is hard work, but that track was certainly not made for tramps or actors. It had been hastily laid in the rainy season, so as to make connection at Santa Lucretia, and infrequent and slow though the trains were, it was already a godsend to the planters and travelers. We knew also that as soon as the dry season came it would be straightened, ballasted, and put in shape. But its prospective virtues did not make the walking any easier. It was not altogether because the sleepers were laid at uneven distances, and often not spiked to the rails, or that the grass had grown up and covered both with a slippery tangle, nor was it the clayey mud that often rose flush with the rail tops, but it was the combination of all these that tired us out ere we had gone very far. Still, we had no thought of backing out, and so plodded steadily on, our feet clogged with mud, our packs on our shoulders, wondering if luck would send the construction train to our assistance. Not that the trip was without its compensations. The day was gorgeous, and my companion, botanist and enthusiast as he is, talked of the trees and plants in a way that would make one forget any sort of hardship.

"RUBIO." INTERIOR OF TEMPORARY OFFICE.

FOREST TREES.

SPEAKING of the forest, one of the most conspicuous trees is a sort of a banyan, which has all the idiosyncrasies of that tree of many trunks, and grows to a great size. It is a species of *Ficus* which has not as yet been identified, but is probably the *Ficus Benjamina*. On tapping it gives a

PLANTATION "RUBIO." TRACT FOR PLANTING, AFTER THE "BURN."

certain amount of *latex*, but of a very sticky nature, and probably of no value. There are also a great many mahogany trees, but in the former lumbering operations the larger of them have been cut out, and while there are many of them that would square perhaps twelve or fourteen inches, there are not so many which would go up to eighteen inches, which used to be the old time test. At the same time, mahogany is so plentiful that many of the bridges across the streams on the forest trails are made of squared mahogany logs, one or two of them laid side by side, and mahogany furniture is very common in the planters' home furnishings. There is also considerable *lignum vitæ*, and on the track we were then walking, it was often used for ties. Spanish cedar is also quite abundant, and is one of the valuable woods.

In regard to trees, the old resident, and sometimes the semi-old one, is very apt to point out the rubber tree in its natural state as you ride with him through the forest, and if he knows anything about rubber, he never makes any mistake. If he doesn't, he is very apt to point out a tree which the planters call the "Boston rubber tree," and which the natives call the "chankarro." It really looks very much like the *Castilloa*, but is apt to prove a surprise to those who try to tap it. The trunk is only a hollow shell, and the interior is invariably filled with what are known as the fire ants, of whose presence the tapper is instantly apprised when his *machete* cuts through the thin film of bark.

There are also many beautiful trees, such as the "royal" and other palms, and an infinite variety of vines and climbers. Perhaps the most abundant vine down in that part of the country is the morning glory, which is not an annual as it is with us, but is a perennial, and which swarms up over the tree trunks, and covers acres of forest with its dense foliage, and its beautiful bloom. To those who insist that the trunk of a rubber tree should not be exposed to the sun, I would suggest that they allow the morning glory vines to cover it, as they will shade it perfectly, and do the tree no harm. At the same time, I am personally convinced that the tree needs no such shading.

I must not forget one vine that we noted on our journey, as it had a blossom that for size put in the shade anything that I had ever seen. I do not recall the botanical name, but it is of the family that produces what is known as the "dutchman's pipe." We saw several of them, and finally secured a blossom. In size it was as large as an old fashioned Shaker bonnet, and must have weighed a pound and a half. It was not pretty, except in a bizarre tropical sense, but was simply a type of what the richest of soil, plenty of moisture, and constant warmth can produce.

"RUBIO." YOUNG PLANTED RUBBER.

There seems to be few poisonous plants, the most common being a luxuriant shrub with a crown of handsome white flowers, which acts like a gigantic nettle, instantly paralyzing the hand that grasped it. This is very plentiful, and its Spanish name means "the evil woman plant."

None of the forest through which we passed would be called primeval, as there were no trees that were over 150 years old. Just why this is so,

"RUBIO." BRICK AND TILE FACTORY.

none can tell, but that the land was once densely inhabited is proved by bits of pottery, arrow heads, etc., that are to be found on every plantation, and in the railroad cuttings in great abundance. And that reminds me that at "La Junta" Mr. Shufeldt gave me a hideously interesting little clay idol which he found in a vegetable garden there. I unwittingly left it on the table in my room at "La Ventura," and I wish to warn the genial householder that I am coming down next year purposely to recover it.

INDICATIONS OF PROGRESS.

MEANWHILE, hot, perspiring, but cheerful, we were plodding on towards the Tehuantepec railway that was miles and miles in the distance. Finally, however, we reached Sanborn, soon to be a metropolis, but when we arrived simply a camp where men were grading, felling the forest, and getting ready to put up a modern railway station, which is to have a telegraph and telephone office, and all sorts of modern conveniences. This place, by the way, is about eight miles from La Junta, and will be its railway station, and is named after one of the prominent officials, who, besides his interest in rubber planting, has purchased a big block of land, and is going into lumbering, brick making, and a variety of industries that will be of marked benefit to that section. At Sanborn we struck good luck, for we had not been there five minutes when a locomotive whistled, and soon the construction train crawled into sight, and, boarding the flat car in front of the engine, to keep from being set afire by sparks from the wood burning engine, we continued our journey.

Arriving at Santa Lucretia in due time, we disembarked and wended our way to the town proper, which consists of a hotel on stilts, a railway station, and a few native huts as a background. With a railway camp close by, and with the many Americans constantly going and coming, the town really presented a busy scene. The hotel is run by Major Elliott, a powerful man with a military bearing, very friendly to those who behave, but a trifle stern with the semi-worthless natives that are ever to be found at a railroad end. We had an excellent dinner, partly of native food, and partly canned goods from the States.

AMERICAN TRADE METHODS.

SPEAKING of the latter, American manufacturers do not seem to realize that one of the best supply markets in the world is to be found among the planters and small hotel men in the tropics. Some do, of course, and some of the great merchants and mail order houses are cultivating the field most industriously and profitably, but most do not. A case in point of this lack of appreciation came to my attention in this journey. A planter who is so thoroughly American that he had far rather buy of his own countrymen than of any other, used a great deal of condensed milk. That which he bought of English or Swiss make was white and sweet, while the American brand, that he wanted to buy, soon became in that hot, moist climate, of a chocolate brown color, and quite offensive. In the goodness of his heart he wrote the manufacturers, telling them the whole story, and instead of being thanked, received a most insulting letter from an officer of the company. He wrote again, not in his former vein, but stating a few salient facts, and ended by remarking that as the English had for 150 years been successfully supplying tropical markets, they would probably keep on until Americans had the sense to study their methods.

Just before the train arrrived, our party was reinforced by the arrival of Mr. R. O. Price, the general manager of "Solo Suchil," who had been apprised to be on the lookout for us, and who told us that a steam launch would be waiting for us at the end of the railway journey to take us up the Coatzacoalcos river to Minatitlan and later to the plantations on that and tributary streams. At length our train came and we were on our way. The much vaunted National Tehuantepec road is no doubt an engineering triumph, but what with earthquakes, morasses, and streams that are one day riverlets and the next raging torrents, it is not yet equal in equipment or service to a one horse road in the Far West. The trains run every other day, and get in on time very rarely.

We finally arrived at Coatzacoalcos, the Atlantic terminus, two hours late, and there were welcomed by Mr. A. B. Luther, the *gerante general* of "Plantacion Rubio." Here two more Americans joined the party and, boarding the steam launch, we steamed up to Minatitlan, a quaint old Mexican town where we were to spend the night. Beds had been bespoken in the little hotel familiarly known as the "bird cage" and we were soon sleeping the sleep of the just.

With the first break of day we were up, had our coffee, and started out to see the place. As a matter of fact, there was not much to interest one at that early hour. Most of the inhabitants were still wrapped in the arms of the sleep god, whatever his Aztec name may be, and the chief signs of life were the dogs, chickens, and turkey buzzards, the latter the most independent and loathsome of all the feathered tribe. There is a fine of $50 for killing one, and the creature knows it, and pursues its scavenging operations with a ruffianly impu-

"BODEGA" ON PLANTATION "RUBIO."

ANOTHER CAMP ON PLANTATION "RUBIO."

dence that is disgusting. It is said that every community in those parts has one buzzard for every inhabitant. According to that, Minatitlan has lots of folks that do not appear in public, for seated on fences, on roofs, swooping down to rob the dogs, fighting, flapping, and squawking, the buzzards were legion.

A little later we all assembled at the boat landing, climbed over a lot of Indian dugouts, and were prepared for the trip up river. Our journey that day was to be up the Coatzacoalcos, the Usapanapa, and Chichigapa rivers, some twenty miles, to view plantation "Rubio." We had elected to talk a lot about rubber planting, but the strange sights, the wonderful scenery, and the glory of the day drove all thought of "shop" out of our minds. By tangled forests, great grassy plains, Indian villages, bamboo thickets, we went, disturbing sullen alligators, and great milk white cranes, and being hailed in unknown tongues by the naked children on the river banks.

"SOLO SUCHIL."

WHEN the novelty of the scene had in a measure worn off, I availed myself of my privilege of asking questions, selecting the general manager of the "Solo Suchil" as my first victim. He responded most cordially, and I soon learned that his plantation was an amalgamation of three estates, was named after the river on which it was situated, and that it grew both coffee and rubber, the latter being used for shade. He had planted both from seed and from nursery stock, but favored the former when practicable. His trees were from one to five years old, and there were about 400,000 of them. He, like all others, was of the opinion that it was fatal to allow the grass to get a foothold among the rubber trees. For this reason, when the rubber was planted alone, it was put in from seven to nine feet apart, and as a further precaution, he was planting between the rows a kind of sweet potato known as the "camate," which covered the ground with a dense mat of vines among which the grass would not grow. This brought out the store of botanical knowledge of my friend Harvey, who recommended the cow pea and the velvet bean for just this purpose, an opinion that I found shared by the others, notably by Dr. W. S. Cockrell, another pioneer planter, of the very interesting meeting with whom I shall tell later.

FIRST VIEW OF "RUBIO."

AFTER a two hours' ride we turned into Chichigapa creek, a deep silent waterway about 200 feet wide, and erelong were tied up at the wharf that is part of the "Rubio" estate. As the banks are low, a substantial platform some 600 feet long leads back to the *bodega*, or storehouse. This is a two story building of brick, with tiled roof on one side and glass roof on the other, and is something that every planter should have. It is in fact a dry house for corn and beans, and is fitted with airtight bins for the storage of these cereals, an effective protection against the omnipresent weevil and equally troublesome mold.

The building that challenged our admiration for its beauty, however, and later for its manifest utility, was the two story dormitory that, situated on an eminence further back looked like a planter's mansion. On close inspection it was found to contain a dining room and kitchen, and sixteen sleeping rooms, all of which opened out on to a broad verandah, which was wholly enclosed in wire netting. The partitions between the rooms were made of burlap, painted over to give it a finish, a very practical and economical plan in a country where matched boards bring a high premium.

To view the plantation proper, it was necessary to have recourse to the horse, and after lunch quite a party of us started through the typical forest trail toward the cleared and planted land at the further side of the estate. At length we emerged into the open, and found ourselves on a ridge from which we had a view of hundreds of acres of rich rolling land, all covered with *Castilloa* trees about a year old. We rode over this whole planting, visited the four camps where the native workmen live in palm thatched houses, and examined the rubber trees on the hilltops, on side hills, and in the valleys, and when we were told that the stand of rubber embraced 1500 acres, all cleared, burned, and planted in one short season, and that there were fully 2,000,000 healthy trees, we fell to congratulating Manager Luther on the accomplishment of so marvelous a task. It took so long to do the whole of the sightseeing that it was dark when we entered the forest again for our two or three mile return ride. Our horses knew the way, however,

and brought us safely through, and an hour later we were on the launch steaming back to Minatitlan. The voyage was without special incident, unless one were to cite the clouds of white moths that filled the air until it looked as if it were snowing, and which finally drove us to cover in the cabin.

The next day we took in a plantation far up the Coachapa river, owned by a wealthy native, Señor Sanchez. His interests were chiefly in cattle, although he had a little grove of wild seedling *Castilloas* about ten years old, which were 16 to 18 inches in diameter, and perhaps 30 feet high. These we tapped in all sorts of ways, and got an abundance of milk, and incidentally proved that neither native nor white man can tap a tree successfully without much practice and skill.

PIECE OF ROAD ON PLANTATION "RUBIO."

Indeed the next great problem that is to confront the rubber planters is that of tapping and preparing for market. One has only to look at the wild trees in the forest, and see how they have been hacked and scarred by the natives, to appreciate the fact that the planters will need better work and greater care of their trees. If all of the natives were expert *machete* men, and good climbers, the problem would be easily solved, but the real good men in this line are scarce. It is a most interesting sight to see a really skilful tapper, armed only with a rope and *machete*, beginning at the bottom of a tree, cut the channels so that the sap runs from one to another with scarcely a drop spilled, every stroke of the *machete* being just right, walking easily up the smooth tree trunk, and even running the tapping channels out on the larger branches. It is also equally disgusting to see a native who claims that he knows how to tap, mangle the bark, and able to climb only a foot or two without slipping down. The practical solution is going to involve two things: one is, the invention of a simple tool that is foolproof, and that cannot in any way injure the tree, and the second is a light safe ladder that will allow the *mozo* to reach the upper part of the trunk. Most of the planters plan to bleed the trees twice a year, in May and October. Some however hold that they can stand tapping much oftener, and some most interesting experiments are being inaugurated in the exploitation of this theory.

A. B. LUTHER.

The sap flows apparently as freely at one time of the year as it does another, but the dry season is undoubtedly the best for tapping, as there is no rain to wash away the milk, and the tree is resting then. If the cutting is done well, the scars soon fill in with new smooth bark, which in no way interferes with later working. The natural way, however, will be to drain one side of the tree at one time, and another at a subsequent tapping. The planters are already planning as to the arrangement of gangs of men, and the pay for tapping and coagulating. The favorite method undoubtedly will be to give each native a certain stint, measured by the amount of latex that he brings in. I got a number of estimates as to the cost of tapping and coagulating, based on actual work, and in no case was it more than 10 cents a pound, Mexican.

Another thing that the planters plan to do is to produce clean dry rubber, and there is no reason why they should not accomplish it. Of the various means of coagulating that are devised by experts, the one that seems to appeal the most strongly to the practical planter on the Isthmus is the use of the juice of the "amole" vine, the *Ipomoea Bona nox*, which is most abundant everywhere, and which apparently adds nothing to the rubber, and effects a quick and clean coagulation.

After coffee at the Sanchez abode, we returned to Minatitlan, retired early and at 3 o'clock the next morning were awakened by Mr. Luther, escorted to the launch, bidden a hearty goodbye and were on our way to Coatzacoalcos, to take the morning train for Tehuantepec. We had planned to take a river steamer the *Dos Rios*, and visit the plantations far up the river, of which there are a lot, but a snag having punched a hole in the boat's bottom, it was forced to tie up for repairs, thus disarranging our plans. We therefore decided to go at once to the Pacific side, and "dry out" and rest, and so it happened that at 9 in the morning we were again on the train, this time bound west.

* * *

ON the train I had a good chance to sort my notes, look over my photographs, and incidentally plan for their later appearance in THE INDIA RUBBER WORLD. Speaking of photographs, it had been my intention to secure likenesses of all of the pioneers in planting just as fast as I got them off guard, but luck was against me and I was unable to carry out this plan until I reached "Rubio." There I secured Mr. A. B. Luther's likeness, and I am glad to introduce him here. It would have suited me better if I could have caught him on horseback, alert, energetic, cheerful, administering the plantation affairs with rare tact and wisdom, or even if I could have had two photes of him, one, when seven years ago he came to the Isthmus and viewed the promised land, the second being the Luther of to-day, full of experience, with the knowledge of difficulties overcome in his eye, and the seal of success on his brow. It is to just such spirits as this hardy pioneer that the American Conquest of the tropics is due, and as this goes to press I am mentally transferring myself to his headquarters in Minatitlan to tell him again how I appreciate his work at "Rubio," and by the way, I would that I could be there in the flesh for the added reason, that on the Glorious Fourth the Planters' Association, in which Mr. Luther is a prominent figure, meet for a genuine American Celebration.

NOTES ON RUBBER EXPLOITATION.

SALE OF A STRAITS SETTLEMENTS RUBBER ESTATE.

THE Pataling Rubber Estates Syndicate, Limited, with £30,000 capital has been registered in London to acquire the Pataling estate, of about 2000 acres, on Klang river, near Kwala Lumpor, in Selangor, Malay states, to cultivate India-rubber, coffee, and other products. The vendor is Miss Florence May Bennett, of Berkshire, England. From *Indian Planting and Gardening* (Calcutta) it appears that the Pataling estate embraces 2000 acres, held under a lease from the government for 999 years from 1895, at a quit rent of $200, silver, per year. Part of the land was planted at first in coffee, but in view of declining prices of this commodity, the planting of rubber between the coffee rows was begun in 1897. The rubber trees (presumably *Hevea*) planted in that year are vigorous, averaging 26 inches in circumference 3 feet from the ground. There are now 347 acres planted to rubber, besides 50 acres in rubber and cocoanuts. It is proposed now to plant the whole remaining area in rubber, at the rate of 200 acres a year. The estate is now practically self-supporting, the yield of coffee last year having been about 133,000 pounds. The purchase price is £20,000, of which £5000 is payable in cash, £5000 in a first mortgage at 5 per cent., and £10,000 in shares. H. C. Rendle is superintendent of the estate.

HARTFORD SUGAR AND RUBBER CO.

[Plantation in the state of Tabasco, Mexico, Office: No. 49 Pearl street, Hartford, Connecticut.]

THE charter, under Maine laws, issued April 22, 1902, has been amended, to omit from the title of the company the words "of Mexico"; to increase the capital from $600,000 to $1,000,000; and to decrease the par value of shares from $25 to $10. The company advise THE INDIA RUBBER WORLD: "The company now has 150 acres of strong, rich sugar cane and expects to plant 1000 acres and erect a sugar mill with a grinding capacity of 350 tons of cane daily. It also intends to plant 1000 acres of rubber and is now clearing 200 acres of forest land for this year's setting. The strong vigorous rubber trees on the lands of our neighbors, the Tobasco Commercial Co."—Plantation "El Zapote," under practically the same management—"leads us to expect a very large return from this industry." When a former notice was made in this Journal (July 1, 1902), the company were not planning any early attention to rubber.

ISTHMUS PLANTATION ASSOCIATION OF MEXICO.

["Hacienda del Corte," Palomares, district of Juchitan, state of Oaxaca, Mexico. Office: Hermann building, Milwaukee, Wisconsin.]

THE annual inspection last spring was made by George James Davies, a Chicago business man chosen by the other shareholders for the purpose. He reported the acreage improved, to the end of 1902, at 2105, with 1035 acres fully planted. The number of trees and plants placed during three years has been:

	1900.	1901.	1902.	Total.
Rubber	4,332	41,678	48,130	94,140
Coffee	117,774	73,562	46,908	238,244
Cacao	....	1,268	....	1,268
Bananas	...	....	7,337	7,337
Pine apples	....	....	15,000	15,000
Castor beans	....	...	69,000	69,000
Cocoanuts	....	....	24	24
Oranges	....	....	80	80
Almonds	....	...	40	40

The road making had progressed to 51,413 meters [=nearly 32 miles]. The average number of men at work during 1902 was 223. A list of 30 plantation buildings is given, including 18 for laborers. The sale of crops produced during the year is reported as follows (in Mexican silver):

Corn	$13,485.16	Beans	$63.00
Rice	2,925 00	Bananas	45.05
Rubber seeds	943.50	Castor beans	21.68
Coffee plants	335.00		
Coffee seeds	84.00	Total	$17,902 46

The yield, after deducting cost of harvesting, amounted to $15 477.73. This table does not include 3000 pounds of coffee ready for shipment. The proceeds were devoted to the payment of dividends.

Mr. Davies reports that the rubber trees 2½ years old measured from 15 to 26½ inches in girth, and 12 to 18 feet high. They are planted 18 feet apart, each way, allowing 160 to the acre. The management planned to plant 85,000 or 90,000 rubber trees this year. A large clearing was being made for sugar cane. Vanila is also to be planted. This plantation has been mentioned previously in THE INDIA RUBBER WORLD for June, 1901, and May, 1902.

THE CENTRAL CAUCHO CO. OF CUBA.

[See THE INDIA RUBBER WORLD, January 1, 1903—page 116.]

THE capitalization of this company is now given at $2,500,000 instead of $100,000 as at first. The officers now are Edwin Liebfreed, president; A. J. Millikin, vice president; N. P. West, secretary and treasurer—all interested largely in real estate, and Mr. Millikin also in Cuban affairs. The principal office is in Philadelphia. Titles and options have been obtained on a large tract near Trinidad, Santa Clara province, in south central Cuba, and 500,000 rubber trees from Pará seed are reported in the nurseries, ready for planting. Plans are making for large plantations of rubber and pineapples. The company offer shares at $5, bearing interest at 5 per cent., guaranteed by bonds secured by city real estate mortgages through the Pacific Underwriting and Trust Co. of San Francisco.

CEYLON PLANTERS' RUBBER SYNDICATE, LIMITED.

[See THE INDIA RUBBER WORLD, May 1, 1902, page 255.]

AT the third annual meeting, at Ceylon, in March, the report for the year 1902 showed that of the authorized capital of 2,50,000 rupees, 1,40,000 rupees [=$45,411.33] had been called in. The number of acres planted in rubber had increased from 350 to 433. The growth was reported to have been favorable. Sixty acres had been planted also with Liberian coffee, between the rubber rows, and it was planned to plant 140 acres more in coffee, in the same way, during April. The expenditure during the year equalled $9,208.28, United States money, bringing the total up to date to $40,921.77. The estate is expected to become self sustaining within three years.

GUTTA-PERCHA FROM LEAVES AT SINGAPORE.

THE director of the Nederlandsche Gutta Percha Maatschappij—J. W. Schiff—in reporting on this company's business for 1902, says that the factory was brought into regular working order on April 22. Subsequently it was closed for 16 days on account of holidays and 60 days for the lack of Gutta-percha leaves, so that the operation was confined to 187 days. There were received at the factory during the year 10,475.21 pikuls [=1,382,728 pounds] of leaves, of which 10,205.33 pikuls were worked. A more liberal supply of leaves is desirable, but there is a promise that this will be secured. The yield of Gutta-percha varied greatly. Some lots yielded as high as 2.66 per cent. in weight, while other lots yielded less than 1 per cent.

The small yield is attributed to delay in shipment of leaves, causing them to become very dry. The expenses of exploitation during the year were 136,546 41 florins [=$54,890], including administrative expenses in Holland. The Gutta-percha product is reported at 79,537.40 florins [=$31,740.]

RUBBER EXPORTS FROM CEYLON.

THE official statements of exports of crude India-rubber from Ceylon—all the product of cultivation, since rubber is not found native on that island—show the following increase:

In 1901	66 cwts.	= 7,392 pounds.
In 1902	189 "	=21,168 "

The greater part of this was rubber of the Pará variety, the satisfactory sales of which have been recorded in THE INDIA RUBBER WORLD. Some of it, however, was the product of the Ceará tree, and the prices obtained for it were correspondingly satisfactory.

The annual report of the United Planters' Association of the Federated Malay States gives the following details of exports of rubber, produced under cultivation during 1902:

From Selangor ("Pará" rubber)	3300 pounds.
From Perak (*Ficus elastica*)	2749 "

There is thus indicated a total export of 27,117 pounds of rubber, the product of cultivation, from the Far East during the year.

THE YIELD OF THE PARA RUBBER TREE.

HERR ERNST ULE, in writing of his expedition to the rubber districts of the Amazon river, in the *Notizblatt* of the royal botanical gardens of Berlin (March 15, 1903), after mentioning his observations on the upper Purús, says: "My experiences with regard to the yield in different regions agree in many ways with an article in THE INDIA RUBBER WORLD (November 1, 1901—page 46), 'Yield of the Pará Rubber Tree.' The number of working days, however, rarely amounts to 180 per year; it may rather be assumed to be 100 days on the average, or from 120 to 150 days at the utmost. The high yield of Purús, 16 pounds (per *estrada*) daily, holds good only for the newly opened district on the highest reaches of the river; the lower river now yields less than the Acre. In rich rubber regions it sometimes happens that a worker collects more than 1000 kilograms per year (about 4 kilograms on an average per tree), but generally the average per worker is between 300 and 400 kilograms per year." From Herr Ule's figures it may be deduced that the best yield on the Purús involves the working of two *estradas* per man (on alternate days), averaging 125 trees per *estrada*, or 250 trees, with an average production of 8⅛ pounds per tree. This amounts to 1000 kilograms for the year. If he gains only 500 kilograms, the average per tree is one half as much, and so on. The article in THE INDIA RUBBER WORLD referred to mentioned an estate on the Purús where 10 men collected in one season 20,170 pounds of rubber—equal to 9150 kilograms, or an average of 915 kilograms per man.

M. Paul Cibot, in the *Journal d'Agriculture Tropicale* (Paris), records some observations on the yield of rubber trees on the rio Beni, in Bolivia, which are summarized below. The tapping of 120 trees, on 23 days, from July 19 to August 25 [1901 ?], gave the following results:

Weight of *latex*	108.240 kilos	=238 626 pounds.
Weight after smoking	73. "	=160.936 "
Weight dried rubber, Sept. 2	66. "	=145.504 "

[Loss in weight in coagulation and drying, 39 per cent.]

This product of dry rubber equals 23 9 grams per tree per day, and estimating 180 working days per season, as Mr. Cibot does, would give a yearly average yield per tree of 4.5 kilograms [=9 93 pounds]. If the further shrinkage of the rubber *en route* to Europe should result in a product 50 per cent. less in weight than the original latex, the average yield per tree would be 3 5 kilograms [=7.72 pounds] per tree. But M. Cibot found some actual results, based upon larger practical operations, more favorable, pointing to an average yearly yield per tree of 3.924 kilograms [=8.65 pounds] of rubber received in Europe. Those results apply to trees not before tapped; M. Cibot finds that the yield diminishes with each succeeding year.

"CASTILLOA ELASTICA" IN CEYLON.

W. E. GILDEA, in the *Tropical Agriculturist*, writes of the *Castilloa elastica* planted on the Ambanganga estate, in the Matale district, Ceylon, in November, 1900, that thirteen trees measured on an average, at the age of 2¼ years, 18 feet in height and 8 inches in diameter. Six months earlier the average height of trees measured on the same estate was 12½ feet and the diameter a little more than 5 inches.

LARGE DIVIDENDS ON RUBBER TRADING.

THE net profits for 1902 of the Société Anversoise pour le Commerce au Congo, based principally upon trading in rubber in the Congo Free State, were stated at the general meeting at Brussels during the month, to have been 1,080,247 francs [=$208,487.67]. A dividend of 300 francs per share was declared, amounting to 1,020,000 francs. There are 3400 shares "without designation of value," though commonly reckoned at 500 francs each, one half the shares being held by the state, which presumably has contributed no capital. With the shares at 500 francs, the last dividend amounts to 60 per cent. In one year (1897) net profits of 3,986,832 francs were reported—about 230 per cent. profits—and shares have been quoted as high as 13,730 francs.

Last month in these pages it was mentioned as probable that the dividend of the Société A B I R from the trading in rubber for 1902 would amount to 100 per cent. It appears that the net profits were 1,472,000 francs [=$284,096], and a dividend was declared of 850 francs per share. The system of shares is the same as in the company named above, which permits the rate of dividend to be stated at 170 per cent. The Société A B I R held at the end of the year 389½ tons of rubber and during the first four months of 1903 had collected 275 tons.

BALATA DISCOVERIES IN BRITISH GUIANA.

THE annual report on this colony for 1901-02 to the British foreign office states: "The Balata industry enjoyed fair prosperity during the year. New forests of bullet tree [Balata] have been found in the upper reaches of the Berbice, Courantine, and Demerara rivers, and some work has been done in them, but there has not yet been time to bring their produce to market." Exports of Balata from this colony have been (pounds):

1897-98.	1898-99.	1899-00.	1900-01.	1901-02.
490,443	408,569	237,824	425,371	387,576

NOTES.

THE death is reported of Señor Don Joaquin Jiminez, of Tuxtepec, Mexico, who has been mentioned in this paper several times as an extensive coffee planter who had also growing a considerable number of productive rubber trees. During the Tuxtepec rebellion he commanded the rural force sustaining the established government, since which time he has been known as Colonel Jiminez.

=The Tabasco Plantation Co. (Minneapolis, Minn.) are having plans drawn for a steel frame sugar factory, to be equipped with machinery for handling 1000 tons of cane per day, for their plantation on the river Macuspana, in the state of Tabasco. The company are planting rubber as well as sugar.

=The Bolivian Rubber and General Enterprise, Limited, with £150,000 capital, has been registered in London to adopt an agreement with C. Chevanne, S. Chevanne, and H. Ferreccio, to acquire rubber concessions in Bolivia and elsewhere. Registered office: 18, St. Swithin's lane, London, E. C.

THE INDIA-RUBBER TRADE IN GREAT BRITAIN.

By Our Regular Correspondent.

THE CONGO STATE.

THE complaints which have so long been rife with regard to the treatment of the natives by Belgian *concessionaires* in the Congo Free State have now led to a discussion in the British house of commons, and after what has transpired it would appear necessary for the signatory Powers to the Berlin convention to take some decisive steps. I have not the space at command nor any particular qualifications for discussing the matter *in extenso* here, and shall limit myself to a few casual remarks. The two classes in this country who take any interest at all in the matter are philanthropists, who know nothing of "African ball" or "Mongalla strips," and rubber merchants, who may or may not know much about philanthropy. The former from their disinterestedness and power will undoubtedly prove more influential in promoting the amelioration of the conditions under which the natives suffer—always supposing that what Captain Burrows and others describe is not an exaggeration. I do not find that the "man in the street," to use a convenient expression, takes any interest at all in the matter. That the phenomenal growth in the rubber imports of Antwerp showed a decline last year is a fact familiar to those who study the market reports of this Journal, but it is not quite clear to what agencies this is attributable. Is it due to decreased yield owing to less coercive measures in collection, or is it because of the inferiority of the product (recently referred to in this Journal) and the consequent lessened demand by purchasers? With regard to the disputed area of Bahr-el Ghazal, although we agreed to its management by the Congo State authorities as a temporary expedient, it may be taken that there is no intention on the part of England to yield up what we recognize as being part and parcel of the lands under Anglo-Egyptian domination.

MOTORS AND TIRES.

NATURALLY the somber and premature ending of the Paris-Madrid race has given rise to a good deal of discussion and has been made the most of by opponents of automobilism. The incentive to prize winning in such cases does undoubtedly introduce the baneful element of professionalism, because the winning drivers can make use of their reputation to monetary effect, and when the prizes are great the tendency to exhibit recklessness will exist. A friendly race between amateurs is a different thing, though with the feeling that has now been aroused on the subject it may be taken that very little latitude will be allowed by authorities in the cases of motor contests of any kind. It would certainly be a pity if the big Irish race did not come off for various reasons, and I am glad to say that it has not been prohibited.——The German tire made by the firm of Louis Peter, Mitteldeutsche Gummiwaaren-Fabrik (Frankfort o/M.) is attracting favorable notice among British automobilists, and it is expected that it will have a good career when the Dunlop monopoly comes to an end.——I read in the daily press that Mr. John Muir, of Leith, Scotland, has invented a process whereby pig skin is made available as a substitute for rubber in the manufacture of tires, the sale of the American rights of the process for $5,000,000 being reported.* I know nothing about this business, but the idea of utilizing leather for this purpose is anything but novel. Previously, it has been found that leather did not stand the abrasion of the roads as well as rubber does, and nothing but failure had to be reported.——Up to the present, motor tire manufacturers have resolutely refused to give guarantees for any minimum time limit as in the case of cycle tires, and this has been rather a sore point with purchasers. An exception has, however, now to be noticed, as the Peter tyre referred to above carries a guarantee of 10,000 miles. Exactly how this is to be checked does not seem obvious; a good deal must certainly be left to the honesty of those advancing claims. ——Though not exactly a rubber matter, the rise in the price of petrol is causing concern to motorists. It is said that the yield in America from whence it is imported is decreasing, though how far this is a fact I have no means at hand of ascertaining.

*Not known in the United States.—THE EDITOR.

MECHANICAL RUBBER PRICES.

ON the whole the circular referred to in this correspondence last month has been received by buyers in a good spirit, its necessity being very generally recognized. The unanimity of the trade in the matter was not quite complete because the Dunlop company remain outside the pale. It is not surprising that the action of this company in pushing its goods at the old prices has been adversely commented on by its competitors who, however, console themselves by predicting for the delinquents all sorts of dismal results from such mistaken policy.

RUBBER TRADE JOURNALS.

THE fact that there are now seven journals devoted to the interests of the rubber trade, is one that seems to call for a word of comment. Of course, there is nothing surprising in the fact that, in the absence of a universal business language on the lines advocated by Sir F. Bramwell at the last meeting of the British Association, each country in which the trade is carried on to a large extent should wish to have a journal in the vernacular. The journals written in the English tongue probably circulate to a greater extent among foreign manufacturers than is the case with the French and German publications with us. What is the situation in America I do not know, but I can testify to the very slight circulation of the German rubber journals among our manufacturers, and this for an obvious reason quite apart from lack of interest. It is a truism to say that it is no easy task to successfully establish a new trade journal; a very long list might be compiled of those which have come to an end rapidly, or after a lingering illness induced by the apathy of those whose interests they were intended to subserve. From what manufacturers in various branches of trade tell me, it has been the too liberal employment of scissors and paste that has hastened this end. The subscribers look for originality and are not satisfied unless they get it; the presentment of complete market returns are, they say, of very little use, because nowadays, with the amount of circularization and telephonic communication which goes on, such news is always too belated to be of actual service except for the student of statistics. With regard to obtaining this original matter editors frequently find a difficulty because those who are best able to furnish it are as a rule in positions of subserviency which precludes them from appearing as authors, and one can hardly cavil at this, because it is expecting too much of an employer that he shall contribute to the welfare or education of his close competitors. Altruism is practically non-existent in trade circles, and there is little likelihood of its tenets becoming the rule instead of the rare exception. It is a noticeable fact with regard to the British rubber trade that members of firms re-

ligiously abstain from ventilating their ideas in the columns of their trade journal. Of course one can understand that the remuneration in this case would not prove the bait that it does to the journalist in his garret, but still this complete abstention is to be regretted from more than one point of view.

THE CARD CLOTHING TRADE.

FROM what a prominent firm in this line of business tells me, the rise in the price of Pará rubber hardly affects them at all. And this not because they can raise their prices in proportion, because quite the contrary is the case. The fact, however, seems to be that the rubber-faced card has practically ceased to be a source of profit. It is still manufactured but in much smaller proportion than the composition card into which rubber does not enter. As both classes of goods are made by the same firms the change has meant an alteration of procedure rather than a loss of business, though the capital expenditure in the requisite plant for rubber cards being much greater than in the case of the composition ones, it is of course, a matter for regret that it should fall into desuetude. Although price is to some extent responsible for the increase in favor of the composition card, yet certainly as far as woolen mills are concerned, merit has largely brought it to the front, and this because of the liability of the rubber card to suffer decomposition by the action of the greasy matters in the wool. The ingredients that are employed in the manufacture of the composition card are somewhat jealously guarded as a trade secret and probity compels me not to enlarge upon the subject. Messrs. Horsfall & Bickham, prominent card manufacturers, have taken to the motor car manufacture successfully and are therefore interested in vulcanized rubber as well as the raw Pará, which was formerly their sole purchase.

CONDEMNED TELEGRAPH STORES.

AT the June sale of condemned stores by the general post-office about 44 tons of Gutta-percha was offered, the price charged to prospective purchasers for samples being 4 shillings per pound, showing a continued rise. The amount offered has shown very little variation for some time past, and has certainly not decreased as might have been expected with the greatly increased application of the "dry core" telephone cables. It is noticeable that the rubber covered cable on offer is marked at *6d.* per pound for samples instead of the *1s. 6d.* at which it stood in earlier lists. I should imagine that the department used to experience a difficulty in finding buyers at their former estimate of value. The waste rubber is now largely augmented by inner tubes and covers of cycle tires, cycles now being in regular use by subordinate officers of the department.

A NEW BOOK.

IN the volume entitled "Conductors for Electrical Distribution," by Dr. F. A. C. Perrine, published recently in New York, there are not unnaturally several references to India rubber and Gutta-percha. I quote the following paragraph, as it seems to invite a little comment: "The decay of cut sheet lapped on copper wire was found to be due to the medium used for preventing the sheets of rubber from adhering, for which purpose use was made of soap and potash substances which subsequently liberated oxygen and grease, one attacking the wire and the other the India rubber." Now it strikes me that there are chemical discrepancies in this seemingly clear categorical statement of the cause of a complaint which is of old standing. I do not however propose to discuss the matter at length as far as the decomposition of the soap is concerned, but in the case of untinned copper the more probable explanation is the direct oxidation of the rubber. Nowadays when the cut sheet is used in a vulcanized cable its decay seems directly attributable to the sulphur penetrating from the vulcanized layer to the wire, the usual tinning of the latter being inadequate to prevent the formation of copper sulphide or sulphate when the wires get heated. Whatever may have been formerly the case, nowadays it is difficult to get an alkaline reaction from the cut sheet made in England, the caustic soda or other body used in the water being present in very small amounts. With regard to the use of the white separator Mr. Perrine remarks that it presents no distinct advantage while adding considerably to the cost of insulation. I don't know whether the makers of Hooper's core endorse this opinion; certainly the idea of keeping the sulphur away from the wire is sound enough, but it does not always seem to have done this effectively.

THE USE OF ADVERTISING.

A CONSIDERABLE difference of opinion is noticeable among British rubber manufacturers as to the actual advantages to be gained by advertising. Some firms have gone in for it for years with regularity, while others have persistently declined to make use of the space offered to them by the advertisement canvasser—on the usual terms. Presumably the former class are satisfied with the result of their investment or else in all probability they would have lapsed into the ranks of the latter. Of course it is always a difficult matter to ascertain how much new business is directly traceable to the advertisement, because in Great Britain, at all events, it is not usual to insert or to comply with "Please mention this paper when you write." I may say that my thoughts have turned on this subject from noticing how great an increase there has been of late in the number of Continental and American firms advertising in British journals. The fact that these find it advisable if not imperative to advertise, while old established home firms hold aloof, is no doubt because the former have to break new ground and get their unknown names familiar to the public, while the latter, who are already as a result of many years trading well known, require no such introduction. A name which has become a household word, so to speak, is a valuable asset of good will which can hardly be augmented by advertisement—that is, where only a limited number of buyers exist and the million is not being appealed to. Some firms assert that by means of their travelers they can tap new sources of revenue to better effect than by an advertisement. This may or may not have proved to be the general experience, and I only repeat the statement for what it is worth. With regard to the question as to how far British rubber manufacturers have been affected by the existing foreign competition, it would be difficult to speak definitely without a good deal of poking into private business affairs, but from what I have gathered our manufacturers do not seem to view the situation with alarm. In the mechanical trade, at any rate, the demands are more often than not for goods to some special pattern which cannot be supplied from stock. Further, if the regular orders are not of a special nature, specialties are often wanted, and the British manufacturer shows himself somewhat indisposed to take the necessary trouble about these if he finds that the bulk of the orders for stock patterns go to some other country. He is ready enough to go out of his way to oblige a good customer or where there is a *quid pro quo*, but it is not at all surprising that he jibs at being expected to pick up with avidity the crumbs from a foreign competitor's table. But to return more particularly to the subject of advertising, for a final word, if it is acknowledged as necessary for the foreigner to advertise in British journals in order to get known it would seem that the British might retaliate by making known the superiority of their wares in American journals. This suggestion emanates entirely from myself and is not due to any inspiration from New York, as the uncharitably disposed might possibly imagine.

THE RUBBER STAMP TRADE.

THE same rule seems to hold in regard to rubber stamps as with all other lines of rubber manufacture—such goods when once introduced continue to be used, and in constantly growing volume. The order book of a large rubber stamp maker reveals as great variety probably as can be found in the production of any other industry. Between the plain signature, or "Paid" or "Received" stamps, used in office correspondence, to the 13 × 18 inch stamps used by some manufacturers to label boxes or packages with a description of the merchandise contained, there is a wide range, in which some new thing is apt to appear in every day's orders. Rubber stamps are used nowadays even in many designs for mechanical plans when the same detail occurs often, especially since a stamp ink has been invented that is adapted for blue print work.

A very great incentive to the rubber stamp trade followed the introduction of the pneumatic stamp, with its imitations, including the use of sponge rubber pads, it being possible, with a flexible stamp, to obtain good impressions over uneven surfaces, not to say very much larger surfaces than before these new features were adopted. The sale of rubber type grows apace with the stamp trade. Whereas many goods formerly were shipped with only initials or symbols to indicate the names of consignees, the leading transportation companies now require packages of freight to be marked with the full names and addresses of the parties to be reached, and rubber type has come to be preferred to the stencil plate, ink pot, and brush for this class of work.

The extent of this industry in the United States cannot be estimated very accurately. No details on the subject appear in the census returns, rubber stamps and type being embraced under the heading "Rubber and Elastic Goods." A leading manufacturer interviewed by the THE INDIA RUBBER WORLD expressed the opinion that in a year there would be 10,000,000 rubber stamps sold, at an average of 60 cents, which would figure out $6,000,000, with a trade in rubber type half as great. He estimated the number of legitimate rubber stamp manufacturers in the United States at about 300, of which 50 could be considered large concerns. All the rubber used is obtained in the shape of compounds from rubber manufacturers. Comparatively few orders are received from abroad for rubber stamps, since stamp makers will be found in every part of the world where a demand exists for such goods. There is a good export business in stamp supplies, however. Nothing like a "trust" has yet existed in the stamp trade, though negotiations are understood to be under way for combining three large concerns whose output runs largely to metal work, as "self inkers" and the like, in which metal enters to a larger extent than rubber.

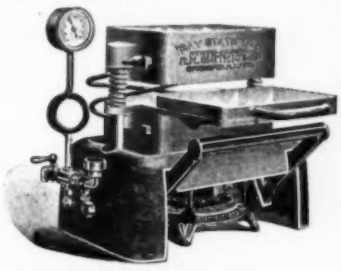
"Is the government a good customer of the rubber stamp trade?" a manufacturer was asked.

"A fairly large user of stamps, but not altogether a satisfactory customer," was the reply. "The postoffice department, particularly, calls for a great many stamps, but contracts for these are awarded to the lowest bidder, and quality does not seem to be considered. Whoever can offer the lowest price secures the business—the quality doesn't matter."

Letters sent out from government offices are always signed with a pen, so that signature stamps are not required, and there are very many uses for stamps in commercial and financial houses which find no counterpart in the public service. It appears that in the construction bureau of the navy department, rubber stamps are coming into use in connection with blue print work, on the lines indicated in a preceding paragraph.

THE "BAY STATE" STAMP VULCANIZER.

THE first requisite of a rubber stamp factory, no matter how small, is a vulcanizer of some sort, and a large factory of this class requires a considerable equipment of vulcanizers. The importance of the trade has led to the development of a special class of vulcanizers, in which has recently appeared the device illustrated on this page—the "Bay State" vulcanizer, patented in the United States January 13, 1903 [No. 718,286]. In its construction extreme compactness has been obtained, with perfect freedom from connection with superfluous iron which would draw off the heat unevenly from the surfaces to be heated and dissipate it by its large amount of radiation. The lower box is a steam generator, having its under surface deeply corrugated lengthwise for larger fire area, producing heat areas without, and water legs within. The only contact this box has with the frame, which also constitutes a jacket to confine and guide the heat where it is desired, is by four projecting corner lugs which rest upon the points of four adjusting screws, by which thickness of sheet may be regulated. The upper steam box is connected with the lower box by securely guided side rods, and is elevated by springs and drawn down by a toggle lever which locks upon its dead center when the lever is clear down, insuring an exact duplicate thickness of any number of sheets. The No. 6 size, accommodating a chase 6¼″ × 9¼″, weighs 105 pounds; size No. 7 accommodates a chase 10″ × 14″. The No. 6 will generate 70 pounds of steam within fifteen minutes from time of lighting cold, and has been used to turn out as high as fifty separate heats in four hours. The machine is referred to also as an excellent molding press. [The R. H. Smith Manufacturing Co., Springfield, Massachusetts.]



OFFICIAL USE OF RUBBER STAMPS IN GERMANY.

A WIDER use of rubber stamps in public offices in Bavaria is reported in the *Gummi-Zeitung*. A Bavarian ministerial decree requires that all stamps (seals) used by municipalities must be ordered from and made by the imperial mint. Recently the municipal government of Munich were in need, for their several branches, of quite a number of stamps. Made of metal, at the mint, these would have cost 8 to 10 marks each. A petition was made by the city authorities to the imperial minister to be allowed to use rubber stamps, which would answer their purpose, and could be supplied by private manufacturers at about 1½ marks each, which petition has been granted. It is believed that this action will go far toward removing the prejudice which has existed in certain quarters against the use of rubber stamps.

A RECENT British patent (No. 14,750—1901), granted to C. Paulitschky, of Vienna, relates to the manufacture of pneumatic tire covers with the object of rendering the tread surfaces especially hard. The materials required for an ordinary tire are taken, and after some shellac has been added, 40 to 50 per cent. of its weight of sulphur is kneaded into the mass. After uniform vulcanization at about 100° to 110° C., the tire is pressed into a mold made of a bad heat-conducting material, like asbestos, so formed that, while the tire is further vulcanized under greater heat, the portions which form the tread become hardened and the inner part remains elastic.

ADULTERATION OF RUBBER.

THE compounding or adulteration of crude India-rubber at first hands—in other words, by the gatherers—is an evil which both importers and manufacturers strenuously resent. Every importer and almost every manufacturer at times has been surprised and annoyed to find lumps or balls of rubber, the interior of which developed billets of wood, stones, bricks, cast off clothing, and a variety of worthless "make weights." In order to guard against this, when rubber is accepted from the gatherers it usually is cut open for an examination of the interior. This method being generally followed, serves to check this sort of dishonesty. Many lots of rubber, however, are

OUTWARD APPEARANCE OF RUBBER.

passed which contain such adulterants. In the illustrations shown herewith, cut No. 1 shows a lump of "Central Strip" which to the outward view was all right. Upon cutting it open, however, almost the whole of the interior was found to be made up of a lot of old rope, which, to say the least, was not worth 60 cents a pound.

This sort of dishonesty is easy to detect, but there are adulterations of both Pará rubber and Gutta-percha which so far are discovered only when the gums are used in manufacture. Whether or not the general value of Pará rubber is less to-day than it was thirty years ago is a question, and those experts in the trade who have been interviewed seem to be about evenly

COIL OF ROPE FOUND IN RUBBER.

divided on the subject. Apropos of this is an extract from a letter received by THE INDIA RUBBER WORLD from G. Lamy-Torrilhon, of Paris, in which he speaks of the experiences of French manufacturers as follows:

"I would be interested in knowing if the American manufacturers, like the French manufacturers, have observed, that the original material (Pará rubber) has been made fraudulent, or at least that the original material is no longer what it formerly was. It is evident that Pará is no longer now what it once was, and when we consider during a period of thirty years, and even less, the difference between a piece of Pará of to-day and previous to that time, we will find an enormous difference. What produces this difference? It is the result of different causes; exhaustion of the rubber trees, the admixture of milks other than those coming from the *Hevea*, the addition of earthy substances and finally its mixture with farinaceous substances, such as fecula, starches, etc., and in proportions such as could not have occurred by accident. What has brought about these results? At any rate this fraud should not be allowed to continue; it should be arraigned, stopped, and destroyed. Such a destructive state of things to our industries must be brought to a stop, or it will in the future become disastrous if obstacles are not placed in its progress. Action should be taken at the earliest possible moment by giving the greatest publicity to the proof of this state of things. Insist on the merchants furnishing pure material, and that they in their turn demand pure material from the importers and those who gather the material, so that the milk from the *Hevea* may be pure, that there may be no mixtures with other milks, that there may be no mixture with earthy matter, and above all that there may be no addition of farinaceous substances in the milk before hardening or coagulation and finally that the product may be no longer suspected and that it become what it was in former years."

VALUE TO GERMANY OF EXPORT TRADE.

AN improving tendency in German business conditions is noted in a recent report by the United States consul general at Berlin, Mr. Frank H. Mason, who has been stationed in Germany for many years and has become widely recognized as competent to deal with the subject to which this report relates. His report concludes:

"The most striking fact which is suggested by the record of 1902 is the priceless value to Germany of the export trade which her manufacturers and merchants had, with the aid of the great and growing German mercantile marine, built up and organized on a secure basis during the prosperous years since 1893. Whatever divided counsels may have since prevailed in respect to the fiscal policy of the empire, every broad minded economist knows that the material progress and greatness of Germany have been due to her industries and commerce, and that her sheet anchor in the stormy weather of the past two years has been her foreign trade."

The new German tariff act, which passed the reichstag on December 13, 1902, has been designed with a view to more strongly protecting home industries of every class. While its enactment has been announced by imperial decree, the new law will not become operative until Germany has concluded new commercial treaties with several nations, in negotiating which the attempt will be made to secure more favorable terms for the introduction of German products into the different countries. In other words, the German import duties will be levied with a view to discriminating against countries which decline to grant reciprocal favors. The ratification of the new treaties, however, rests with the new reichstag elected in June, for which reason the result of the elections was looked for with interest in many countries.

THE report 1902 of The Straits Settlements botanic gardens, mentions the distribution of 126,210 young plants of *Hevea Brasilliensis* (Pará rubber). The demand for seeds has fallen off, because so many of the trees now growing on plantations are fruiting. Mr. C. Curtis, at the Waterfall garden, in Penang, reports the seventh yearly tapping of a large Pará rubber tree, with a yield of 2 pounds 13¼ ounces, which brings the average for seven years up to 2 pounds 10 ounces. Mr. Curtis will write a report on the forest department in the Malay states.

INDIA-RUBBER GOODS IN COMMERCE.

EXPORTS FROM THE UNITED STATES.

OFFICIAL statement of values for the month of April, 1903, and the first ten months of four fiscal years, beginning July 1:

MONTHS.	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTAL.
April, 1903	$ 82,809	$ 33,091	$ 258,250	$ 374,150
July-March	596,799	948,505	1,623,362	3,168,666
Total	$679,608	$981,596	$1,881,612	$3,542,816
Total, 1901-02	514,470	939,671	1,437,099	2,891,240
Total, 1900-01	418,085	662,971	1,432,124	2,543,180
Total, 1899-00	439,220	329,686	1,133,094	1,902,000

In addition, there were exports of rubber goods during the ten months as follows: To Alaska, $86,260; Hawaiian islands, $52,712; Philippines, $47,787; Porto Rico, $15,140—a total value of $201,899 of such goods to the non-contiguous territories of the United States.

GREAT BRITAIN.

THE following table, compiled from official returns, relates to the values of exports of manufactures of India-rubber (including boots and shoes) during four years past:

	1899.	1900.	1901.	1902.
To Foreign countries	£1,111,216	£1,109,416	£ 886,816	£ 885,368
To British possessions	277,589	314,048	375,597	272,274
Total	£1,388,805	£1,423,464	£1,262,415	£1,157,642

Imports of rubber goods (including boots and shoes) during the same period have been in value as below stated:

	1899.	1900.	1901.	1902.
From Foreign countries	£689,593	£708,173	£681,973	£759,328
From British possessions	2,018	3,906	8,154	20,045
Total	£691,611	£712,081	£690,127	£779,373

The next table indicates the value of the trade in rubber goods with the five countries ranking highest in respect to exports in 1902, and also the five highest in respect to imports:

EXPORTS:	Value.	IMPORTS:	Value.
France	£221,641	United States	£360,306
Germany	149,474	Germany	193,818
Australia	100,407	Holland	73,395
Belgium	100,286	Belgium	67,011
Holland	64,754	France	60,896

The value of exports to the United States was £44,796.

EXPORTS OF RUBBER BOOTS AND SHOES.

[*The Figures relate to Dozen Pairs.*]

FOREIGN COUNTRIES:	1901.	1902.	BRITISH POSSESSIONS:	1901.	1902.
France	26,026	24,177	Australia	9,605	15,362
Belgium	15,829	18,684	Hong Kong	13,705	14,420
Turkey	14,803	10,594	Natal	5,059	8,615
Germany	7,163	9,255	East Indies	6,281	7,462
Norway	7,671	7,046	Cape Good Hope	3,657	5,866
China	9,243	5,505	New Zealand	2,215	5,059
Holland	5,611	5,082	British Guiana	3,528	1,565
Denmark	2,539	1,588	West Indies	880	860
Other countries	2,859	1,864	Canada	754	18
			Other possessions	656	606
Total	91,744	83,795	Total	46,340	59,833

SUMMARY.

	1901.	1902.
Total dozen pairs	138,084	143,628
Total value	£176,387	£171,557

IMPORTS OF RUBBER BOOTS AND SHOES.

[*The Figures relate to Dozen Pairs.*]

FROM—	1901.	1902.	FROM—	1901.	1902.
United States	151,806	144,365	Other countries	70	141
Germany	57,946	49,451	Canada	7,244	12,045
France	10,344	10,701			
Holland	1,124	3,366	Total	229,191	220,095
Belgium	657	26	Total value	£246,221	£288,832

THE COMMERCIAL PACIFIC CABLE.

THE cable ship *Anglia*, which began laying the new Pacific cable from Manila on May 25, landed it at Guam at midnight on June 1, the splicing to the shore end having been completed, and the line was opened for business on June 2. There then remained to be laid the section between Guam and Honolulu to complete the line across the Pacific. The length of that line, to be laid by the *Anglia* and the *Colonia*, and touching at Midway islands, is 3440 miles.

In September last Vice President George G. Ward, of the Commercial Pacific Cable Co., on arriving in New York from England, announced that the United States and Manila would be in communication by cable on July 4 next. Thus far the program then in prospect has been carried out without a hitch, and the belief still exists that the completed cable will be in operation by the date mentioned.

It may not be generally known that while the Pacific cable is of British manufacture, the shore ends of the various sections—an important item, by the way—were manufactured in the United States, by The Okonite Co., Limited. The cable end at San Francisco is about 6½ miles long, made to the specification of the cable company as follows: Each cable consists of four cores laid up around a jute center, having a full twist every ten feet, then covered with jute and lead. Each conductor consists of seven wires, stranded, weighing approximately 170 pounds to the mile, and covered with "okonite" to a diameter of 0.295 of an inch. Each of the cores is taped and lead covered, and on three of them there are distinguishing marks in the shape of raised ribs, the fourth one being left plain. The cores were subjected to a breakdown test of 5000 volts alternating current, applied for ten minutes, and tests for insulation, conductor resistance and capacity were constantly taken during manufacture and laying. After the cables were laid and spliced up, final tests gave results practically identically the same as those obtained at the factory without splices.

Two such cable ends were supplied for Honolulu, each a trifle over 5 miles in length, and similar sections for Manila and the other stations. The experience of the Atlantic cable companies has shown that under certain conditions Gutta-percha lacks sufficient durability for use in cable ends, and the Okonite company have supplied such ends for some of the cables after they had first been laid with ends of Gutta-percha. To avoid the possibility of trouble on the new cable, land ends insulated with compound instead of Gutta-percha were called for in the original specifications.

ANOTHER RUBBER DISTRICT EXHAUSTED.

ONLY a few years ago the editor of the *British Central Africa Gazette*, then recently started at Zomba, in British Central Africa, forwarded a sample of native rubber to THE INDIA RUBBER WORLD, with a request for an estimate of its value. Following this came reports of the collection of rubber in that district—lying to the west of Lake Nyasa—and its shipment to London, where fairly good prices were obtained, and hopes were entertained that a permanent new source of wealth had been developed. But a recent issue of *The Times* (London) publishes a latter from the Rev. Alexander Hetherwick, M. A., of the Church of Scotland mission at Blantyre, long stationed in the district referred to, in which he writes: "Central Africa has no indigenous product such as will form a staple export. The supply of native rubber is exhausted, and so, too, is the ivory trade." The rubber was collected from the *Landolphia* creepers, which seem everywhere to disappear rapidly under continued tapping.

THE CONGO CONTROVERSY.

IN an editorial article the New York *Sun* (June 9) intimates that there may be two sides to the questions raised of late in regard to conditions in the Congo Free State, and that a suspension of judgment is called for. The *Sun* says: "The Congo Free State undertook a tremendous and perhaps impossible task in trying to open up central Africa without the barbarities that have invariably accompanied the introduction of civilization into savage lands. It might be fairer play perhaps to consider what the Belgians have succeeded in doing, as well as their failures." There might be more point in the *Sun's* comment if any evidence existed of efforts to civilize the rubber gatherers who are now being driven to exterminate the chief source of wealth in the Congo state. And when the rubber is gone, leaving no incentive to trading companies to remain on the ground, how much will the country have been "opened up"?

[From *The Times* (London), May 23—Reuter telegram.]

ANTWERP, May 22.—The arrival of yesterday's London papers containing full accounts of the Congo debate in the house of commons has caused something like consternation in Congo commercial circles. The resolution passed by the house will, it is believed by many, prove a death blow to the Belgian monopoly on the Congo. Free trade and equal rights to all foreigners will, it is believed here, result in stamping out the outrages for which the trading companies are responsible, and dividends of from 45 to 100 per cent. will no longer be earned by the Belgian companies when foreign companies plant themselves in Congo territory.

[From the New York *Times*, June 3 - Associated Press despatch.]

BRUSSELS, June 2.—It is stated that King Leopold is going to London with several high Congo state functionaries, to endeavor to personally settle the Congo state questions, which, particularly the charges of brutality brought against the Congo state officials, were recently discussed in the British parliament.

[From *The West African Mail* (Liverpool), May 29.]

THE Brussels correspondent of the *Standard* states that the grand council of the Congo state is convened for Tuesday [June 2] to deliberate on the situation. King Leopold is preparing a memorial to the signatory powers to the Berlin general act in reply to the charges made in the house of commons. The king is convinced that the proposed British action will remain without practical results, as France and Germany are not inclined to support it.

ONE RUBBER MONOPOLY ON THE CONGO.

REFERENCE has been made in these pages from time to time to the formation of the Syndicat (or Compagnie) du Kasai, by the merger of the rubber *concessionaire* companies trading in the region of the Kasai and its tributaries, in the Congo Free State. The reasons for the surrender of the independence of the several companies, organized at various dates between 1888 and 1900, with a large combined capitalization, and at one time reporting large profits, have never been announced publicly. *The West African Mail* (Liverpool), in an effort to throw some light on the subject, asserts that the companies began to find their business seriously interfered with by the government, though the activity of its agents in collecting rubber for taxes before allowing the natives to barter for European goods imported by the merchants. Complaints by the companies appeared in the Belgian newspapers, says the Liverpool journal, but there was no change in the situation until a plan proposed by the state was adopted, whereby a "trust" was formed, 4020 "shares" being created—without designation of value—the state reserving one-half, and the remaining 2010 shares being distributed among the companies.

Thus the Congo Free State, without contributing any capital, now comes in for one-half of the profits of the following companies, whose capital originally was as stated in the table. The outer column of figures indicates the number of shares in the syndicate allotted to each company:

COMPANIES.	Capital.	Shares.
S. A. Belge pour le Commerce du Haut-Congo ..... *francs*	5,050,000	340
Neuwe Handels Vennootschap.....	(*a*)	340
Société des Produits Végétaux du Haut-Kasai....	1,250,000	255
Cie. Anversoise des Plantations du Lubefu.....	600,000	217
Plantations Lacourt	800,000	204
Société "La Belgika".....	3,000,000	199
Comptoir Congolais "Velde".....	1,000,000	77
Société "La Kassaienne".....	150,000	75
Société Anonyme "La Djuma".....	250,000	74
L'Est du Kwango, S. A.	350,000	62
Société "La Loanje".....	1,000,000	58
Central Africaine.....	(*b*)	55
Cie. des Magasins Généraux du Congo.....	1,200,000	31
Société Anonyme Trafic Congolais.....	500,000	23
Total..... *francs*	15,150,000	2010

[*a*—A Dutch company; no details at hand. *b*—Capital 1,000,000 francs; engaged chiefly in industrial affairs and only to a small extent in the Congo trade.]

A comparison of the financial statements of the several companies shows them not to be uniform in style, but it would appear that eight of them, capitalized at 12,050,000 francs, in 1899 showed profits of 3,733,438 francs. In 1900 nine of the companies, with 13,250,000 francs capital, yielded profits of 3,080,214 francs. The remaining companies—the newer and smaller ones—reported no profits for the years mentioned. Whether there was a subsequent decline of profits to justify *The West African Mail's* assertion that the companies became "unable to make both ends meet" cannot be determined from any reports now at hand. But the accompanying comparative table of quotations for the shares of some of these companies, on the Brussels *bourse*, would indicate that, at the latest of the dates given, their earnings must have been smaller than previously.

	Jan. 1900.	Jan. 1901.	Nov. 1901.
Haut-Congo, pref...	530.	527.50	517.
Do o d. ..	2292.50	2960.	982.50
Prod. Veget., pref..	170	185.	95.
Do ord ..	155.	117.50	77.50
Lubefu, pref.....	400.	700.	455.
Do ord	450.	605.	315.
Lacourt, pref	250.	368.75	207.50
Belgika, pref	95.	74.	56.50
Do ord.....	750.	525.	212.50
Kassaienne, ord ...	——	315.	——
Est Kwango, pref..	75.	142.50	——
Do ord ..	——	122.50	——
Loanje, pref.....	195.	122.50	——
Mag. Generaux... .	900.	570.	245.

Grisar & Co.'s annual review of the Antwerp rubber market for 1902—an admitted authority—mentioned the Compagnie du Kasai as "now resuming operations in Africa after some months of inactivity in the district under its control." Yet the arrivals of rubber at Antwerp during 1902 to the credit of the Belgian companies above named amounted to 941,405 kilograms [= 2,071,091 pounds], against 1,063 815 kilograms [=2,340,393 pounds] in 1901—a decline of only 11⅓ per cent. in a year when the total arrivals from the Congo Free State showed a decline of 9½ per cent. from the preceding year. It must be considered, however, that all the rubber gathered is not marketed in the same year, and *The West African Mail* has reports that the collection of rubber by the Kasai group of companies during 1902 amounted to 565,000 kilograms.

Evidently the Kasai still affords a rich rubber field, or the state would not care for shares in the companies trading there. And it would not seem natural for the companies to surrender half their profits if absolute "freedom of trade" prevailed in that region. It is believed that the Congo Free State now holds shares, to the extent of 50 per cent. or more, in all the companies trading in its domains, with the exception of the narrow strip south of the Congo, near the Atlantic. Which constitutes without doubt the most extensive "corner" in rubber that ever existed.

RECENT RUBBER PATENTS.

THE UNITED STATES PATENT RECORD.

ISSUED MAY 5, 1903.

NO. 726,885. Golf or other club [with Gutta-percha and India-rubber core for driving face]. John D. Dunn, Los Angeles, California.

726,889. Artificial foot. George F. Ehrle, Milwaukee, Wisconsin.

726,904. Horseshoe. Frederick T. Giles, Bristol, England.

726,951. Skirt lifter. Evert Lautenbach, Chicago, Illinois.

727,031. Electric conductor or cable. Francis Tewmain, Highgate, England.

727,076. Vehicle tire [with inner-tube of spring metal]. Rufus W. Brooks, Portsmouth, Virginia.

727,198. Playing ball. Francis H. Richards, Hartford, Connecticut, assignor to The Kempshall Manufacturing Co.

727,199. Playing ball. Francis H. Richards, Hartford, Connecticut, assignor to The Kempshall Manufacturing Co.

727,200. Playing ball. Francis H. Richards, Hartford, Connecticut, assignor to The Kempshall Manufacturing Co.

727,201. Playing ball. Francis H. Richards, Hartford, Connecticut, assignor to The Kempshall Manufacturing Co.

727,202. Playing ball Francis H. Richards, Hartford, Connecticut, assignor to The Kempshall Manufacturing Co.

727,295. Tire fastener. Ralph M. Connable, Baltimore, Maryland.

727,296 Vehicle tire and fastening therefor. Ralph M. Connable, Baltimore, Maryland.

727,311. Cylinder and piston packing. John E. Douglas, Birmingham, and George W. Hays, Avondale, Alabama.

727,318. Life preserver. John A. Elenius, Calumet, Michigan.

727,383. Joint for artificial limbs. Edward Koeber, Chicago, Illinois.

727,398. Rubber tip attachment for lead pencils. Ernest U. Mack, Florence, South Carolina, assignor to Eagle Pencil Co., New York city.

727 482. Hose coupling. Thomas Strba and Samuel Strba, Allegheny, Pennsylvania

727,542. Process of making playing balls. Eleazer Kempshall, Boston, Massachusetts.

Trade Mark.

40,246. Rubber hose. Capen Belting and Rubber Co., St. Louis, Missouri. *Essential feature*—The combination of letters "Ne-pac." Used since July 1, 1901.

ISSUED MAY 12, 1903.

727,582. Rubber cushion tire for vehicles. Archibald H. Brintnell, Toronto, assignor to Donald James McKinnon, St. Catharines, Canada.

727,664. Machine for covering rollers with India-rubber or like materials. Robert Milne, Edinburgh, Scotland.

727,746. Tire fastening. John F. Byers, Ravenna, Ohio.

727,756. Device for reinsulating electric and aerial telephone or other cables. John Daggett, assignor to one-half to Morgan H. Landers, both of Elyria, Ohio.

727,829. Cable terminal. Joseph J. O'Connell, Chicago, Illinois, assignor to American Telephone and Telegraph Co., New York.

727,835. Horseshoe. John C. Piper and James I. Piper, Buffalo, New York.

727,858. Hose or pipe coupling. Henry A. Stier, Warren, Pennsylvania.

727,877. Rubber tire [of solid rubber, with bearing plates embedded therein, and a longitudinal retaining wire, resting above said plates.] Robert Austin, Brooklyn, New York.

728,009. Tire. Gus H. Raflovich. Boston, Massachusetts.

728,015. Insulating joint. James T. Robb, assignor to the Mitchell Vance Co., both of New York city.

728,106. Resilient tire [of rubber and spring metal sections combined]. Anthony W. Hockman, Clarksburg, West Virginia.

728,152. Insulating means for electrical apparatus. Asa F. Batchelder, Schenectady, New York, assignor to General Electric Co.

Trade Mark.

40,366. Dress shield. The Canfield Rubber Co., Bridgeport, Connecticut. *Essential feature.*—The representation of a shield inclosed in a circle, the shield bearing the representation of two chrysanthemums on a common looped stem and the word "Hicks," in the fac simile or autograph signature of Ratcliffe Hicks, president of the corporation. Used since December 10, 1902.

ISSUED MAY 19, 1903.

728,328. Atomizer. Charles A. Tatum, New York city, assignor to Whitall Tatum Co.

728,351. Rubber disk attacher for bottle stoppers. Theodore H. Alcorn, Kansas City, and Earl L. Chatfield, Mt. Washington, Missouri.

728,439. Paint spraying apparatus. Reginald W. Bird, Boston, Massachusetts.

728,442. Electric insulator. Edward J. Burke, assignor of one half to John F. Cummings and Peter W. Anderson, both of Olyphant, Pennsylvania.

728,476. Protective hood. Esther Langer, Brooklyn, New York.

728,490. Rubber tire wheel. Richard Mulholland, Dunkirk, New York.

728,507. Composition for use in the manufacture of linoleum or like coated fabrics. James A. Shepherd, Glasgow, Scotland.

728,678. Resilient tire. Lincoln C Cummings, Pasadena, California.

728,696. Hose coupling. Frederick G. Frankenberg and Alfred P. Miller, assignors to Flexible Armored Hose Co., both of Chicago, Illinois.

728,745. Life preserver. William N. Morrison, St. Louis, Missouri.

728,773. Nailless horseshoe. Josiah Serfass, Hazelton, Pennsylvania.

728,776. Tire fastener. Joseph B. Smith, assignor of one half to L. G. Pullen, both of Havana, Illinois.

ISSUED MAY 26, 1903.

728,851. Vulcanized "Kerite" compound. William R. Brixey, Seymour, Connecticut.

728,980. Surgical applicator. Elzie L. Ridgway and Daniel H. Bailey, Denison, Texas.

729,011. Hypodermic syringe. Charles Tagliabue and Frederick W. Steuer, Brooklyn, New York, said Steuer assignor to said Tagliabue.

729,064. Dumb bell. Frank W. Hale, Boston, Massachusetts.

729,139. Fountain pen. John H. Crowell, Vineyard Haven, Massachusetts.

729,171. Electric heating fabric. Joseph M. C. Herrgott, Valdoie, France.

729,311. Compressible tire for vehicles. Henry P. Feister, Philadelphia, Pennsylvania.

729 314. Shoe. Herman Fischer, New York city.

729,385. Vehicle wheel. William Morrison, Chicago, Illinois, assignor to the Helios-Upton Co.

729,479. Hose coupling. Jacob Wittman, Pittsburg, Pennsylvania.

THE BRITISH PATENT RECORD.

[* *Denotes Applications from the United States.*]

APPLICATIONS—1903.

6,808. G. H. Raflovich, 55, Chancery lane, London. Resilient tire for vehicles. Mar. 24.

7,207. O. G. Zipser, 40, Chancery lane, London. Rubber tired wheel. Mar. 27.

7,381. W. J. Armes, 4, South street, Finsbury, London. Heel pads for boots. Mar. 30.

7,416. A. C. Hills and W. C. Allen, Coventry. Pneumatic tire and rim for the same. Mar. 31.

7,430. M. Peters, Glasgow. Pneumatic tire. Mar. 31.

7,468. B. Kempner, Chancery lane, London. Ventilation of waterproof garments. Mar. 31.

7,521. A. R. Spear, Strand, London. Golf ball. Mar. 31.

7,550. A. Yeates, Doverdale, Cheltenham. Spring-spring tire. April 1.

7,583. I. Tennant, 18, Buckingham street, London. Pneumatic tire. April 1.

7,678. E. Ferry and J. T. E. Jones, Paddington, London. Wire cover for pneumatic tires, to prevent slipping. April 2.

7,686. W. Wandless, 18, Southampton buildings, London. Non-skidding and puncture proof tire. April 2.

7,708. H. S. Burton, 173, Fleet street, London. Syringe. April 2.

7,725. H. Thorp and H. F. Copley, Huddersfield. Manufacture of hose and pneumatic tires. April 3.

7,805. A. Vickery, 70, Chancery lane, London. Pneumatic tire. April 3.

7,810. E. A. Seddon, Manchester. Pneumatic tire. April 4.

7,856. S. Johnson, Fulham, London. Elastic tire and metal rim. April 4.

7,865. L. Peter, 53, Chancery lane, London. Manufacture of repair

slips for tire inner tubes. (Communicated from Germany.) April 4.

7,952. J. Johnson, 18, Buckingham street, London. Pneumatic foot. April 6.

*7,959. W. J. Kent, 70, Chancery lane, London. Hoof pad. April 6.

7,967. G. W. White, 46, Lincoln Inn's fields. Hose coupling. April 6.

7,974. J. R. Hayne, 18, Southampton buildings, London. Pneumatic hub for vehicle wheels. April 6.

8,038. A. W. Benjamin, 78, Fleet street, London. Golf ball. April 7.

8,037. R. H. Bicknell, Palace chambers, Westminster, London. Tire for motor cars. April 7.

8,062. P. F. Woods, 18, Southampton buildings, London. Golf ball. April 7.

8,063. L. F. Sachs, 18, Southampton buildings, London. Tire for cycles and motors. April 7.

8,065. L. F. Sachs, 18, Southampton buildings, London. Golf ball. April 7.

8,087. J.-N. Dages, 22, Southampton buildings, London. Cushion tire for vehicles. April 7.

8,115. J. Pattison, Glasgow. Golf ball. April 8.

8,189. P. W. Meyer, and O. E. Kellermann, 18, Buckingham street, London. Pneumatic tire. April 8.

*8,311. Raymond B. Price, 19, Holburn viaduct. Golf ball. April 9.

8,410. S. G. Board, Manchester. Tire for motors. April 14.

8,426. R. Mc C. Service, Glasgow. Enema syringe. April 14.

PATENTS GRANTED.

[ABSTRACTED IN THE OFFICIAL JOURNAL, APRIL 1, 1903.]

24,763 (1901). Preserving India rubber. [A mixture of 95 parts soda ash and 5 parts commercial carbonate of ammonia is dissolved in hot water and applied to tires or other rubber articles to be preserved or restored.] T. E. Truss and G. H. Moore, Chester.

*24,833 (1901). Spring tires for vehicles with rubber tread. C. H. Paschke, Buffalo, New York.

24,842 (1901). Medical syringe. J. J. Seguier, St. Yrieux, France.

24,911 (1901). Pneumatic tire [with the part of the air tube which lies within the rim made stiffer than the other part to prevent damage by being nipped in the cover or rim]. H. Falconnet and M. Perodeaud, Choisy-le-Roi (Seine), France.

24,912 (1901). Pneumatic tire [with combined metal and fabric strip to prevent punctures]. H. Falconnet and M. Pérodeaud, Choisy-le-Roi (Seine), France.

*24,924 (1901). Elastic tire [formed of a rubber cover and a core of cellular rubber or cork]. C. Hird, Woonsocket, Rhode Island.

*25,200 (1901). Pessary [of hard rubber]. J. R. Lang, Rockport, Indiana.

[ABSTRACTED IN THE OFFICIAL JOURNAL, APRIL 8, 1903.]

25,517 (1901). Pneumatic tire [relates to attaching to rims protected tires]. W. P. Thompson, London. (J. P. LeGrand, Levallois-Perret (Seine), France.)

25,547 (1901). Dental vulcanizing flask. W. P. Stock, Glasgow.

25,707 (1901). Hoof pad. R. E. Clement, Bournemouth West, Hampshire.

*25,769. Chemical discharge apparatus. [This device is sold in the United States as the "Son of a Gun" pistol.] Russell Parker, Brooklyn, New York.

25,800 (1901). Pneumatic tire [relates to detachably connecting the ends of double ended air tubes]. C. E. A. Esse, Ormskirk, Lancashire.

25,819 (1901). Pneumatic tire [the air tube is protected by interposing between it and the outer cover a puncture resisting strip of fabric]. M. Dawson, Southport, Lancashire.

25,969 (1901). Pneumatic tire [relates to means for attachment to the wheels of motors]. Louis Peter, Frankfort o/M, Germany.

[ABSTRACTED IN THE OFFICIAL JOURNAL, APRIL 16, 1903.]

26,331 (1901). Pneumatic tire [the internal space filled with small air tight rubber chambers containing air under pressure, so that when one becomes punctured the others expand to fill up the space]. F. Mitchell, Hammersmith, Middlesex.

26,445 (1901). Vehicle tire [solid rubber, held on with two wires covered and connected by canvas strips, after which the groove is filled with rubber]. A. E. Walker and Charles Macintosh & Co., Limited, Manchester.

*26,718 (1901). Air mattress. C. C. Henderson, No. 315 Dearborn street, Chicago, Illinois.

[ABSTRACTED IN THE OFFICIAL JOURNAL, APRIL, 22, 1903.]

26 (1902). Pneumatic tire [with elastic core]. J. P. Le Grand and N. Chenaue, Levallois-Perret (Seine), France.

*152 (1902). Golf ball. P. M. Justice, London. (Cleland Davis, Washington, United States.)

[ABSTRACTED IN THE OFFICIAL JOURNAL, APRIL 29, 1903.]

*316 (1902). Rubber ball, mounted on the front end of a carriage pole to prevent shock in case of collision. E. G. Johnson, No. 1422 Euclid avenue, Philadelphia.

317 (1902). Dental vulcanizer. J. S. Campbell, 11, Pall Mall, London.

*444 (1902). Vehicle tire [solid rubber, with the base portion stiffened either by greater vulcanization or embedding in it transversely placed wires]. Raymond B. Price, No. 407 Dearborn avenue, Chicago, Illinois.

THE GERMAN PATENT RECORD.

PATENTS GRANTED.—1903.

142,659 (Class 39*d*). Process for making rubber sponges. [See THE INDIA RUBBER WORLD, June 1—page 301.] Vereinigte Gummiwaaren-Fabriken, Harburg-Wien, Harburg a/Elbe. May 6.

142,676 (Cl. 45*i*). Elastic subsole for horseshoes, consisting of a rubber plate between hoof and shoe, upon which is a soft rubber pad. G. Topp, Frankfort a/M. May 6.

142,985 (Cl. 70*b*). Penholder having elastic core as base for pen. E. Fischer, Vienna. May 20.

DESIGN PATENTS [GEBRAUCHSMUSTER].

197,284 (Class 3*b*). Rubber raincoat without side or back seams, cut of one piece with front and back widths united at the shoulders. Vereinigte Gummiwaaren-Fabriken, Harburg-Wien, Harburg a/Elbe. April 29.

196,717 (Cl. 42*k*). Frame for eyeglasses with rubber tubular nose piece. P. Pesenecker, Rathenow. April 29.

197,465 (Cl. 71*a*). A boot of woven material saturated with a solution of rubber, having inner sole, toe cap, and heel of leather. F. Schürr, Munich. April 29.

197,832 (Cl. 21*b*). High tension electric cell of the Bunsen type, completely sealed with rubber. Boettcher and Quarck, Munich. May 6.

196,868 (Cl. 33*b*). Rubber holder with flat hook closure for umbrellas. F. Göhns, Celle. May 6.

198,221 (Cl. 3*b*). Extension girdle or belt, the elastic insert of which is covered with a squamiform texture. H. Posner, Berlin. May 13.

198,531 (Cl. 45*i*). Interchangeable pad for horse's hoof, having rubber frog and adjustable angular bridge. H. Fischer, Frankfort a/M., and F. M. Hilberts, Remscheid. May 13.

198,508 (Cl. 47*g*). Metal cocks, valves, etc, the inner walls, pins, stems, etc., of which are lined with hard rubber or composed wholly of it. F. Dürholdt, Barmen, May 13.

198,493 (Cl. 63*c*). Air tire consisting of an inner tube covered with a tread of sponge rubber. J. Hübner, Kirschenrode, near Hannover. May 13.

198,507 (Cl. 63*c*). Wheel-tire of a perforated rubber core protected by strips of spirally wound canvas. P. Müller, Berlin. May 13.

198,656 (Cl. 71*a*). Surgical-operating-shoe. Frau E. Jacoby, Berlin. May 20.

198,865 (Cl. 77*f*). Child's rubber rattle with teething ring and speaking reed. Phil. Penin, Gummiwaaren-Fabrik A.-G., Liepsig-Plagwitz. May 20.

199,204 (Cl. 15*k*). Rubber stamp having elastic base, of two covers connected by several uprights. M. Putzrath, Berlin. May 27.

199,536 (Cl. 71*a*). Rubber overshoe, with rubber inner walls for surgical operating purposes. Vereinigte Gummiwaaren-Fabriken, Harburg-Wien, Harburg a/Elbe. May 27.

199,187 (Cl. 71*b*). Interchangeable elastic rubber rim adapted to fit a raised plate on heels of boots. B. Thum, Wittenberg. May 27.

APPLICATIONS.

19,071 (Class 39*a*). Process and apparatus for vulcanizing articles made of rubber. B. W. Wittenberg, Erwin Brock, and Erwin Koch, Riga, Russia. May 13.

31,287 (Cl. 77*a*). Apparatus for athletic exercise, with elastic cords. T. Barth, Julich. May 13.

12,906 (Cl. 30*d*). Plunger for syringe with rubber packing. Frau R. Détert, Berlin. May 13.

16,381 (Cl. 63*c*). Pneumatic tire having a corrugated protective tread. J. F. Lober, Pittsburgh, Pennsylvania. May 20.

19,943 (Cl. 63*c*). Rubber tires with depressions on tread, adapted for heavy vehicles. W. O. Worth, Chicago, Illinois. May 20.

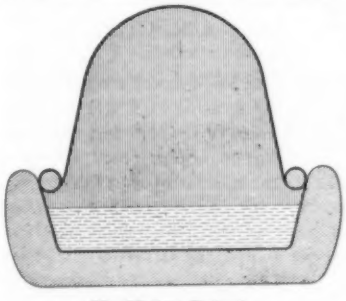
NEW GOODS AND SPECIALTIES IN RUBBER.

THE FAWKES AIRLESS TIRE.

THIS is a tire patented by parties in Denver, Colorado, who have been encouraged by the results of its use on vehicles for some months past to organize a company for introducing it on the market. Their tires have been made thus far at Akron, Ohio, but the plans of the company extend to the establishment of a factory in Denver, if a sufficient demand for the new article should develop. The sectional view of the tire herewith indicates so fully the form of the tire that little description is necessary. It may be mentioned, however, that the features to which attention is called are lightness and easy riding, without possibility of puncture or liability to rim cut or creep, as the tire is elastic and hugs the rim closely. They are also mentioned as being so made as to insure durability. The tires are offered for use on bicycles as well as automobiles and other vehicles. [The Fawkes Rubber Co., No. 1526 Stout street, Denver, Colorado.]

THE MACMAHON SOLID RUBBER VEHICLE TIRE.

THIS tire is absolutely solid throughout, without wire holes or steel cross pins. It is so constructed and applied to the channel that the base remains in its original position and condition until the tread is worn down and out. Its construction involves a waterproof fabric hose, and the means for retaining it in place is a longitudinal wire, on either side, resting upon a projection of the tire and against the flange of the steel channel. The MacMahon tire is made in standard sizes and is adapted to all styles and weights of vehicles. [Penrose & Langmuir, No. 1616 Broadway, New York.]



MacMahon Patent.

MEANS OF ATTACHING TIRE TO RIM.

THE invention of Francesco Toni [United States patent No. 720,639] relates to a method of attaching the covers of rubber tires to wheel rims or fellies, and more particularly to the attachment of heavy tires to wooden fellies. The edges of the tire cover are formed with enlarged beads—preferably of square cross section. The wood felly is channeled or rabbeted at its outer edge to receive the beads, which are kept in place by annular shaped rings on either side of the felly and attached thereto by bolts, as indicated in Fig. 2 of the illustration. There is also provided a flat plate, the edges of which overhang the channels or rabbets of the wood felly and engage the top edges of the beads. This flat plate is permanently fixed to the wood felly by means of screws or otherwise. The tire, when in position, being thus tightly clamped, all possibility of creeping, it is claimed, is avoided. In order to obtain access to the inner tube, it is necessary only to remove one of the side rings, so as to allow one of the beaded edges of the tire to be removed from the channel.

FIG. 1.

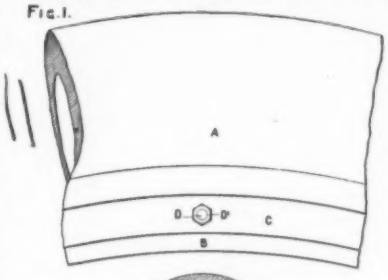
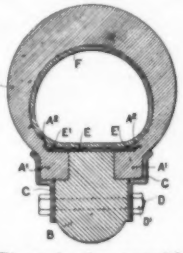
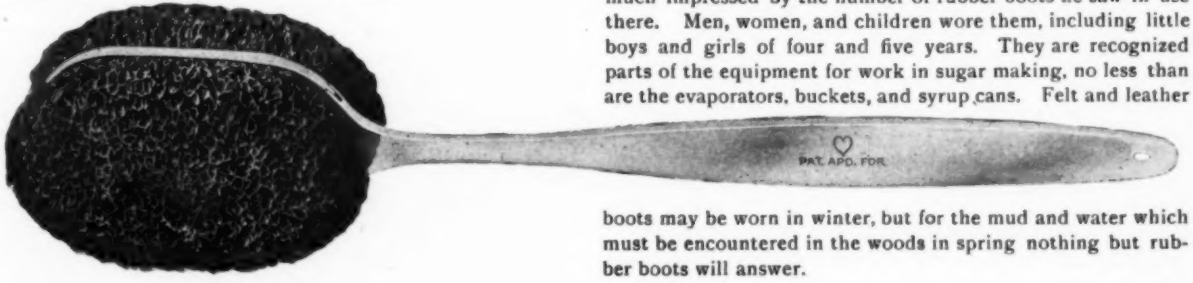


FIG. 2



HART'S RUBBER SPONGE BATH BRUSH.

A VALUABLE adjunct to the rubber sponge is the aluminum or wood holder which the illustration shows. It is really an exceedingly practical thing, as the sponge can be attached to the holder, or taken out with the greatest ease. To accomplish this it is only necessary to have the rim of the holder in the center of the sponge, the elasticity of the rubber keeping it in place perfectly. To remove it, simply press together the sides of the holder at the top. By the use of this holder the wear and tear is saved in a marked degree, and the whole combination is particularly neat and effective. [Smith, Kline & French Co., No. 435 Arch street, Philadelphia.]



A CORRESPONDENT of THE INDIA RUBBER WORD, on a recent visit to the maple sugar camps of northern Ohio, was much impressed by the number of rubber boots he saw in use there. Men, women, and children wore them, including little boys and girls of four and five years. They are recognized parts of the equipment for work in sugar making, no less than are the evaporators, buckets, and syrup cans. Felt and leather boots may be worn in winter, but for the mud and water which must be encountered in the woods in spring nothing but rubber boots will answer.

THE TEXTILE GOODS MARKET.

THE saying that "Cotton is king" was never more true than at present, and with every prospect of continued high cost of the raw material, it appears quite likely that the reign of the monarch will be uninterrupted for some time. Since the last issue of THE INDIA RUBBER WORLD, the market has been a state of chaos, the "bulls" having had a run of good luck such as seldom comes their way. It may truly be termed a gambler's month, and the dealings in futures have been on a gigantic scale, with prices continuing to harden from day to day, until the moment, when the spot staple is quoted at 13¼ cents, or 2¼ cents over one month ago. The acreage put under cotton cultivation for the coming season is said to be over 28,500,000 and unless the yield is in the vicinity of 11,750,000 bales the reserve stock will not get into a position of safety. It is clear that unless a large production of cotton is forthcoming another season, the cotton mills will have to remain idle a part of the year. Starting about June 1, cotton mills in the South and in New England have been either shutting down or suspending work on part of their machinery. Those operating full have contracts on hand that must be completed, no matter what the price of cotton. One Southern mill in this position was compelled to buy cotton this week, paying 16 cents a pound for 200 bales—the highest price paid for cotton since 1875. The cotton duck mills have enough cotton to carry them through to the end of the season, but when the rubber manufacturers come to make their contracts for another year, they will find that prices have gone up considerable. Some time since the agents in this market were ordered to advance their prices for hose and belting ducks to 22 cents a pound, and new contracts will be made on that basis, or about 5 cents a pound higher than those now in force. In fact, it is possible that the cost of duck may increase materially between now and October. Beginning with this month the mills of the United States Cotton Duck Corporation will close down for a fortnight or a month, a part of them at a time.

The following figures were the prices of spot cotton at the various ports on the dates named:

	New York.	New Orleans.	Liverpool.
June 6	11.50c.	11⅛c.	6.50*d*
June 13	12.50c.	12⅛c.	7. *d*
June 20	12.40c.	13 1/16c.	6.88*d*
June 27	13 25c.	13 5/16c.	7. *d*

The hose and belt manufacturers have not made their requisitions as regularly and on as large a scale during the past month as characterized their operations during May, and it looks as though some of them would not consume the maximum quantity of their contracts. There is little doubt, however, about their taking all the goods contracted for, even if they do not need them for this season's consumption. Indeed, it has been hinted that some of the manufacturers have been curtailing their output to actual requirements, in view of the higher prices they will have to pay for ducks next season. What they do not use this season will save them from buying that much for the next. That this has been anticipated by the duck manufacturers is shown by the fact that contracts for another year will be made on an entirely different basis. The amount specified will have to be taken within the year, and at periods named in the contract.

Manufacturers of rubber boots who have been delaying their purchases of ducks in hope to see prices more to their liking have displayed rather poor business acumen. Some of them could have covered their requirements a month ago at 17 cents a pound, but to-day they must pay 22 cents. Some of them followed the advice of the sellers and made contracts for the remainder of the year at 17 cents, while others held off, and have since paid more.

Rubber shoe and boot manufacturers have also been rather derelict in not looking after their needs in the cotton sheeting market. Sheetings of every description are selling to-day at a material advance over last month's prices, and consumers have paid within a week all the way from 1/8 c. to 1 c. per yard more for sheetings used for linings. There is no reason why rubber manufacturers who are in need of these goods should not cover their requirements for an advance period at to-day's prices, for these will advance from time to time, no one having the temerity to even hint at lower prices. On the contrary, it is a safe prediction that in the next issue of this Journal these prices will be much higher:

FABRICS FOR THE RUBBER TRADE.

Forty-inch Majestic C. C.	7¼ cents.
Forty-inch Majestic B B. B.	6¾ cents.
Forty-inch Majestic B. B.	6½ cents.
Forty inch, Elcaney	5½ cents.
Thirty-six inch, India	6 cents.

Sheetings.			
40″ Highgate	5¾c.	40″ Selkirk	7¼c.
40″ Hightown	6¼c.	40″ Sellew	7½c.
40″ Hobart	6½c.	48″ Mohawk	10 c.
40″ Kingstons	7½c.	40″ Marcus	5 c.
39″ Stopyhurst	5¼c.	40″ Mallory	5 c.
39″ Sorosis	5 c.	36″ Capstans	4 c.
40″ Seefeld	7½c.	*Osnaburgs.*	
		40″ Iroquois	8½c.

40″ Shamrock	8½c
Ducks.	
40″ 7 oz. Cranford.	8 c.
40″ 8 oz. Charters.	8½c.
40″ 10 oz. Carew.	10½c.
40″ 11 oz. Carita.	11¼c

Canadian rubber manufacturers are still buying American ducks and other cotton textiles. The Canadian parliament has decided to give the United States another chance, and has deferred placing ducks on the list of fabrics coming under the tariff. It is understood that an effort will be made to induce Uncle Sam to grant reciprocity with the Canadian government, in which event, the matter of duty on our ducks will be indefinitely deferred. In the meantime the Germans are compelled to pay a duty on all goods sent into Canada.

An important reorganization of the finances of the United States Cotton Duck Corporation is in progress.

INTERNATIONAL CABLE DIRECTORY.

IN view of the great saving of time in the preparation of telegrams and cablegrams, the registration of single words to signify the names and street addresses of senders and receivers of messages is steadily assuming larger proportions. In Great Britain and on the Continent these registrations have been general for many years, because the telegraph and cable companies abroad charge for each and every word in a message, while in the United States the telegraph companies make no charge for names and street addresses. With their steadily increasing foreign trade, Americans are now almost universally registering a telegraphic address, and it is this which called the "International Cable Directory of the World" into existence a few years ago. The 1903 edition of this work has just been issued. It contains the names of thousands of corporations, firms, and individuals, besides their telegraphic addresses, and also some 3000 articles of manufactures, the titles of which are printed in English, German, Spanish, and French. The book since its first issue has grown rapidly and now comprises some 600 pages. It is most valuable as a book of reference to banks, bankers, manufacturers, merchants, and men in the professions. The publishers have apparently exercised the greatest possible care in the compilation of the work, which is issued in conjunction with the Western Union Telegraphic Code system, now in use in all parts of the globe. [International Cable Directory Co., publishers, No. 17 State street, New York.]

THE RUBBER TRADE IN AKRON.

BY A RESIDENT CORRESPONDENT.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The Firestone Tire and Rubber Co. on June 5 obtained in the United States court for the northern Illinois district, at Chicago, a decision in their favor in a suit brought to restrain the Union Tire and Rubber Co. (Chicago) from the manufacture and sale of tires alleged to infringe on the Swinehart side wire patent granted May 16, 1899. Suit was commenced by the Firestone company against the Union Tire and Rubber Co., and John W. D. Carslaw, their general manager, and other officers of the company, in June, 1901. The decree just entered perpetually enjoins the defendant company from manufacturing or selling the tires found to infringe on the Swinehart patent, and Elisha B. Sherman is appointed by the court to take an accounting of the profits of the Union company and determine the damages due the plaintiffs. The defendant company are understood to have discontinued business. They were not represented by counsel at the final hearing in court. The tires which infringed were made for them by others.

* * *

VICE PRESIDENT B. G. WORK, of The B. F. Goodrich Co., returned during the month from a visit of six weeks in England and the continent, on which he was accompanied by Mrs. Work. It was while Mr. Work was in London that the St. Andrew's Golf Association, the organization of professional golf players in England, rescinded their action of the past winter in barring the Haskell golf ball from their play. Their action pleased Mr. Work, one of the inventors of the Haskell ball and manager of the Haskell Golf Ball Co., very much, but it did not surprise him. Golfers in general and public sentiment had been in favor of the Haskell ball all along, and even the most powerful organization known to the game could not withstand such a combination. The B. F. Goodrich Co. will continue to manufacture the Haskell ball for the Haskell Golf Ball Co., which will supply the foreign trade.

* * *

THE annual picnic of the Goodyear Tire and Rubber Co.'s employés is scheduled for June 27 at Silver lake. Richard Whittlesey, of the shipping department, is in charge of the arrangements which, if the weather permits, will have been most pleasantly carried out by the time THE INDIA RUBBER WORLD reaches its readers. The employés of the Buckeye Rubber Co. will, as in former years, join the Goodyear workers in their annual outing.——The employés of the Whitman & Barnes Manufacturing Co. will hold their annual picnic under the auspices of the Whitman & Barnes Relief Association, at Conneaut lake, on Saturday, July 11. Foreman George S. Whitney will be master of ceremonies.——The Diamond Rubber Co. workers' picnic will be late this year—perhaps not until August. Foreman M. Flynn, of the tire department, has the arrangements in charge.——The annual picnic of The B. F. Goodrich Co. will be held at Silver lake on Saturday, August 1. As usual the company will provide free transportation for all employés and their families.

* * *

THE Goodyear Tire and Rubber Co. have added 500 H.P. to their power capacity within the past few weeks, making 2000 H.P. all told. They have doubled their capacity in this respect during the past year.

The Firestone Tire and Rubber Co. are making a number of eight inch solid tires for use on the heavy motor trucks of a large St. Louis brewing company, which are said to be the largest rubber tires ever manufactured. The Firestone company are also making some extraordinarily heavy tires for use on fire department apparatus. The engines and trucks of the Newark, (New Jersey) fire department will be equipped throughout with this company's tires.

The whole plant of the Whitman & Barnes Manufacturing Co. in Akron is now devoted to the manufacture of twist drills and high grade rubber mechanicals. Orders for the cheaper goods are being steadily refused. The policy of producing only the higher class goods has been found entirely successful, the business increasing remarkably.

The Lilly Rubber Manufacturing Co., who began business in Barberton in March, have an exceptionally neat and practical plant. It is well situated as to transportation facilities and well equipped. The company will soon begin producing an extensive line of molded goods in addition to their dipped work.

Harry C. Miller, formerly of The B. F. Goodrich Co., but for some time active in the Union Rubber Co., the only rubber jobbing concern in Akron, has accepted the management of the Detroit branch of the Goodrich company, succeeding Harry G. Miller, resigned.

S. J. Carkuff, after a year's absence from the rubber trade, in business on his own account in Chicago, has returned to the Firestone Tire and Rubber Co., with which he was formerly connected, as assistant manager.

I. R. Bailey, formerly of the Clifton Manufacturing Co. (Boston), is making a distinct success of the hard rubber department of The Diamond Rubber Co. One of their main products is insulating tapes.

Sales Manager H. E. Raymond, of The B. F. Goodrich Co., will leave on July 2, to spend a two months' vacation in England and on the continent. Mr. Raymond was invited to address a convention of rubber jobbers at Niagara Falls on July 8, but his plans were such that he could not remain for the meeting.

Mr. W. Tischbein, sales agent of the Continental Caoutchouc- und Guttapercha-Co. (Hanover, Germany), visited Akron rubber factories on June 16 and 17. He was accompanied by his wife, this being their wedding trip. They were entertained at the homes of Messrs. R. P. Marvin, B. G. Work, and J. A. Swinehart.

F. A. Seiberling, general manager of the Goodyear Tire and Rubber Co., has been spending the latter part of June at his island, Kaukenagea, near Mackinac, Michigan. His family are there for the summer, and Mr. Seiberling will be a frequent visitor.

J. A. Artley, of the offices of The Diamond Rubber Co., has been made assistant cashier of the Guardian Savings Bank of Akron.

Dr. L. E. Sisler, treasurer of the Firestone Tire and Rubber Co., has been chosen treasurer of the Dollar Savings Bank which recently opened for business in Akron.

It is reported that a number of rubber manufacturers, some of them in Akron, have been "taken in" by a person who has sold them what purported to be the formula for the Russian rubber sponge, but proved practically worthless.

The Akron Machine Co., placed in the hands of a receiver on March 13, was declared bankrupt by Referee D. A. Doyle on June 18. Creditors will meet June 30. The schedule filed shows assets of $108,143.93 and liabilities of but $34,357.09.

The Garlock Packing Co., of Cleveland, and the Akron rubber concerns made good exhibits at the annual meeting of the Association of Stationary Engineers of Ohio in Akron, on June 17-18.

R. L. Chipman, local representative of George A. Alden & Co. (Boston), won the spring championship of the Portage Golf

Club in the final play on June 18, defeating the former champion, George D. Dates. This is the first time within a couple of years that the championship has come to one connected with the rubber trade in Akron.

The golf club organized by Goodyear Tire and Rubber Co. office men now numbers 35 members and they have a first class six hole course. C. W Seiberling holds the spring championship. The Goodyear company are manufacturing the Saunders compressed air ball, but not pushing it hard this season.

A considerable number of bicycle tires for wheels to be sold in China and Japan are being made in Akron. In the latter country a fair trade is developing, though both the Chinaman and Jap buy only the cheap grades. Manufacturers express a strong preference for the Japanese as people with whom to do business as compared to the sons of the Flowery empire.

J. K. Williams, of the Williams Foundry and Machine Co., is an enthusiastic member of the Akron Gun Club, and was among those who attended the Ohio state trap shoot at Cincinnati the week of June 8. The next state shoot will be held in Akron.

Miss Myrtle C. Wild, daughter of Mr. W. L. Wild, local manager of The India Rubber Co., was married on the evening of June 10 to Mr. Frank C. Blanchard, of the office force of the Whitman and Barnes Manufacturing Co. It was one of the largest weddings of the year in Akron. As a climax to the evening's festivities at the Wild home, the bride and bridegroom were suddenly missed, when it was discovered that, with the assistance of Mr. A. H. Marks, of the Diamond Rubber Co., whose home adjoins the Wild residence, they had escaped in an automobile to Cuyahoga Falls, there to take a train, thus avoiding the shower of too emphatic best wishes.

Charles E. Sheldon, president of the Whitman and Barnes Manufacturing Co., was chosen as one of the three trustees in the bankruptcy proceedings against the Aultman, Miller & Co. at a meeting of creditors on June 9. The claims against the concern are approximately $2,900,000 and the election of trustees developed a spirited contest.

THE RUBBER TRADE IN TRENTON.

BY A RESIDENT CORRESPONDENT.

TO THE EDITOR OF THE INDIA RUBBER WORLD: There was a strike of short duration at the middle of the month, in the factory of the Whitehead Brothers Rubber Co. Walter Hughes, the head baler, asked for an increase of wages, which was denied by the superintendent, whereupon Hughes resigned and his assistant, Isaac Stelle, was promoted to his place. An hour later the entire factory force went on strike, leaving the works. The next day three employés, comprising the shop committee of the local rubber workers' union, conferred with a member of the firm and the superintendent, with the result that the former conditions were restored—Hughes returning to work at his former wages, and the men agreeing to refer any former grievances to the shop committee before taking action. This strike was in no sense the work of the union, but was entirely local to the Whitehead factory, and was settled before the union had official notice of its existence.

The Eureka Fire Hose Co., of New York and Jersey City, have brought action in the New Jersey court of chancery against The Eureka Rubber Manufacturing Co. of Trenton, N. J., to have the latter enjoined from the use of the word "Eureka" in advertising their products, particularly in the marketing of fire hose, and further to be restrained from using the name "Eureka" in their title as a corporation. Messrs. Crouse & Perkins, of Jersey City, are counsel for the complainants, and former Judge William M. Lanning, of Trenton, represents the local concern. Acting for his clients, Judge Lanning has filed his answer to the allegation of the New York company, in the course of which it is denied that the Eureka Fire Hose Co. have acquired the right to the exclusive use of the work "Eureka" as a trade name for their products. It is also denied that the Trenton company have advertised goods under the name "Eureka" stamped with the single word as a trade mark. Continuing, the answer says: "That at the time of its incorporation the local company made application to the secretary of state to ascertain if any like company had been incorporated under the name 'The Eureka Rubber Manufacturing Co.' The information was that no such name appeared in the list of corporations. The name was then adopted and the secretary of state granted a certificate."

The protracted dry spell of April, May, and the first part of June resulted in the local rubber factories being kept unprecedentedly busy in supplying the sudden demand for garden and sprinkling hose. Mr. W. J. B. Stokes, of the Home Rubber Co., states that the demand for such hose has never been equaled. Mr. C. Edward Murray, of the Empire and the Crescent rubber companies, said that their employés were compelled to work overtime daily to keep up with the orders. Other mills report a similar condition of affairs. The heavy rains have broken the demand, however, and this particular line of trade has dropped back to its normal state.

In certain departments the Modern Rubber Manufacturing Co. has fully recovered from the effects of the fire which totally destroyed the plant last fall, and these departments are being operated on full time. Some of the damaged machinery has not yet been overhauled and the work of this is being done at the factory of Whitehead Brothers.

W. H. Harding, president of the Union Rubber Co., which was established as a selling agency last August, reports that already the volume of business done by the firm has exceeded the most sanguine expectations. During the last few months, Mr. Harding states, the orders have been three times what was anticipated. The company handles a line of oil cloths and linoleums, besides its rubber business.

Harry E. Evans, manager of the Consolidated Rubber Co., which is exclusively a selling concern, reports business as being on a very satisfactory basis. This company has a fine suite of offices in the Broad Street National Bank building. Mr. Evans is chaplain of the New Jersey Assembly of the National Union and took a prominent part in the meeting of the assembly in this city on June 16.

A building of historic interest to the local rubber industry was torn down early in June to make way for improvements. This was the old structure on Clinton avenue, opposite the Hamilton Rubber Manufacturing Co.'s plant. It was the second building in Trenton to be devoted to the manufacture of rubber goods, and was operated as a rubber mill by the late Charles V. Mead. Later Mr. Mead moved his machinery to the basement of the old grist mill further out on Clinton avenue, and thus laid the foundation for the present factory of the Empire Rubber Manufacturing Co. The property is owned by the Trenton Potteries Co., and the old building was torn down to be replaced by a large brick stable and storage building. The first building in the city to be used for the manufacture of rubber goods was located in South Trenton and was torn down a few years ago to make room for an extension to the Woodhouse chain works.

William A. Howell, superintendent of the Whitehead Brothers Rubber Co.'s factory, is one of the veterans of the industry here. He has been with the Messrs. Whitehead continuously

for twenty-two years and has been superintendent for over twelve years. Mr. Howell owns an attractive home in the eighth ward, and represented his ward in the city council in 1890–94.

The Reliance Rubber Co., the new manufacturing concern mentioned in this column last month, was delayed somewhat in beginning operations, owing to the need of repairs to the power plant which were not at first thought necessary. The company hope to be in full running order, with their water power in first class condition, by July 1. William R. Thropp (Trenton) supplied the Reliance company with a 40 × 40 platen hydraulic press and a screw press.

The plant of William R. Thropp, by the way, has been extremely busy all the spring and summer with work on rubber machinery and other special contracts. The shop has been operated night and day much of the time.

The Hamilton Rubber Manufacturing Co. have received a new 74 inch three platen heavy belting press built by the Farrel Foundry and Machine Co. (Ansonia, Connecticut). The company have had in contemplation for some time past an extensive addition to their mill, but the matter has been delayed on account of unsettled labor conditions.

The Mercer Hospital fair, held during the last four days of May, and to which donations of cash or material were made by most of the local rubber companies, resulted in net profits of $2500.

The net receipts at the Memorial day picnic of the local rubber workers' union amounted to $478. Over 400 members, headed by the Naval Reserve band, and a delegation of the Central Labor Union paraded to the grounds.

The De Laski & Thropp Circular Woven Tire Co., with an authorized capital of $100,000, was incorporated in the county clerk's office at Trenton on June 25. By the articles of incorporation the purpose of the company is declared to be "to manufacture automobile and other circular woven tubular fabrics." The concern begins business with $10,000 paid in. The incorporators are Albert De Laski, Weehawken, N. J., 40 shares; Peter D. Thropp, Sheriff Thomas H. Thropp, John E. Thropp, and Frank W. Thropp, all of Trenton, 15 shares each. Under patents of Mr. De Laski, the inventor of the circular hose loom, the company will manufacture automobile and other vehicle tires, the distinctive feature of which will be a base of webbing woven in a circular tubular form by an ingenious machine, the invention of Mr. De Laski. This machine consists of one of his circular hose looms, which by a new attachment and feeding smaller ply yarn to the inner side of the tire than is fed to the tread, causes the weave to assume the circular form. The machine is adjustable and will weave any size tires, from 20 inches diameter, up. The company will manufacture a solid rubber tire, two styles of single tube, a heavy clincher for automobiles, and an inner tube tire. One of the weaving machines and the complete machinery for making the tires on a small scale has been installed in the works of the John E. Thropp & Sons Co., and here the tires are being made. As soon as every detail of the manufacture has been perfected a factory will be erected in this city and the manufacture commenced on a large scale. Mr. De Laski has taken out patents on his process in the United States and nineteen foreign countries.

The Franklin Rubber Co., incorporated May 29, 1903, under New Jersey laws, to deal in rubber goods; authorized capital, $1,000,000. The company is referred to as being exclusively an inside company and a selling agency of the Mercer Rubber Co., manufacturers, of Trenton, and the registered offices in New Jersey are at No. 137 East State street—the headquarters of the Mercer company. The incorporators are William H. Sayen, James S. Austin, and William P. Huston, of Philadelphia, and John E. Clancy and John A. Sloan, of Trenton—each signing the papers as the holder of 10 shares each of the par value of $100.

THE RUBBER TRADE IN KANSAS CITY.

BY A RESIDENT CORRESPONDENT.

TO THE EDITOR OF THE INDIA RUBBER WORLD: On the theory that "it's an ill wind that blows no one good" it was thought the trade in rubber goods at least would have been greatly stimulated by the recent floods in Kansas and Kansas City, but dealers in this class of merchandise say they have suffered equally with firms in other lines. In one item, that of rubber boots, there was a strong demand, but it was not sufficient to offset the loss in other directions.

"It is a natural error," said the manager of one of the leading Kansas City rubber companies yesterday, "to suppose that trade in our line should have been largely increased by reason of the floods and the attendant rains. Our house, doing a business of half a million dollars a year, wholesale and retail, in Kansas City and Kansas City territory, is probably a fair barometer of conditions in the rubber trade. Beginning with the first of the high water here our trade fell off fully one half and the demand for specialties like rubber boots was not sufficient to anywhere near make up for it. There was a demand for rubber boots that could not be supplied. The local stocks were exhausted the second day and then all of us who handle this class of goods began to telephone and telegraph over the country for more. We drew on Chicago, Milwaukee, Detroit, every city where there was any considerable stock, and drained the western depot of the United States Rubber Co. St. Louis had a flood of its own and couldn't help us.

"It is safe to say that 3000 pair of hip boots and 6000 pair of knee boots were sold the week when the flood was at its worst. But aside from this there was little demand for rubber goods. Comparatively few slickers were sold, and most of them went to the packing companies, which had large forces of men at work where the water was dripping on them. Throughout Kansas City territory the demand for rubber goods fell off. Topeka merchants made practically no orders and the same is true of other cities in the flooded district. Business for two weeks was at a standstill and is just beginning to show signs of picking up.

"One item of loss to manufacturing firms that has not yet been computed is leather belting. Every foot of belting that was in the water is ruined, as the water melted the cement which held it together and the cost of replacing it will be one of the largest single items of expense in the rehabilitation of milling and manufacturing plants. Here is a bill of $1500 for belting repairs to one milling company and we are to-day shipping another 3400 pounds. These are but two instances out of hundreds."

Inquiry at other places emphasized these statements. At the sporting goods and department stores the rubber boot stock was sold out, but the general trade in rubber goods was as dull as in other lines. A conservative estimate of the amount spent for rubber boots in Kansas City during the flood places it at $30,000.

A BRITISH newspaper mentions a factory on that side of the Atlantic where "old rubber is bought in and converted into sheets which no one but a thorough expert could detect from being a thoroughly good piece of new rubber." The location of the works is not given.

NEWS OF THE AMERICAN RUBBER TRADE.

ATLANTIC RUBBER SHOE CO.

A LARGE force has been at work during the month on the factory being built for this company west of the Pawtuxet river, near Elmwood avenue, Providence, Rhode Island. The main building will be of brick, three stories high, and 264 × 58 feet, with a basement, making the structure practically four stories. A second building, to be used as a machine shop, also of three stories, is to measure 148 × 54 feet. The boiler house is to be 36 × 54 feet, with a height of 28 feet. The smoke-stack is to be 150 feet in height. A factory is being planned to give employment to from 800 to 1000 hands, for the production of rubber boots and shoes under the system invented by H. J. Doughty. At the beginning of June it was expected that the plant would be completed within two months, and rapid progress on the work is reported.

A NEW GOLF BALL FACTORY.

THE Cambridge Manufacturing Co. have been mentioned in these pages lately as undertaking the manufacture of golf balls, at Plantsville, Connecticut. It is understood that they are now ready to offer their product to the trade. They are making a "lively" ball, to be known as the "Gyro," the same being the subject of a United States patent [No. 697,816] granted to Cleland Davis, of the United States navy. Its construction involves (1) a spherical shell of celluloid, or a nitrocellulose compound, (2) layers of elastic material, wound on under tension, and (3) an outer shell of Gutta-percha or "its equivalent—vulcanized rubber or other material of like character." The Cambridge Manufacturing Co. are incorporated under the laws of Delaware, with $100,000 capital. E. B. Frost, of the legal firm of Frost & Johnson, No. 100 Broadway, New York, is president of the company, and Norman G. Johnson, of the same firm, is business manager. E. O. Horstman, of Washington, D. C., and a member of the Chevy Chase Golf Club of that city, is vice president. The remaining directors are N. S. Simpkins, of Washington, and Cleland Davis, U. S. N., the inventor. A patent on the ball has also been granted in England—No. 152 (1902).

RUBBER GOODS MANUFACTURING CO.

AT a meeting of the board of directors in New York, on May 27, the seventeenth regular quarterly dividend of 1¾ per cent. on the preferred shares was declared, out of earnings, payable on June 16 to holders of record on June 5.——The general offices of the company are now installed in the Postal Telegraph building, No. 253 Broadway, New York, in seven rooms. The business of the company is better concentrated here than in the former quarters, besides which the location is more convenient to the offices in New York of the constituent companies. A new department has been installed—that of purchasing agent, in the same building with the general offices.

L. CANDEE & CO. (NEW HAVEN, CONN.)

THE large power plant of this company's factory is being entirely renewed, with a view to adopting the latest ideas in scientific construction for the purpose of obtaining the maximum of motive power with a given steam consumption. By these changes, Vice President H. Stuart Hotchkiss informs THE INDIA RUBBER WORLD, it is expected to affect an economy to the extent of reducing the number of pounds of steam required per indicated horse power per hour from 25 to 14. An order has been placed with the Westinghouse Machine Co. (Pittsburgh) for two Westinghouse Corliss tandem compound condensing engines—26 and 52 × 54, and 24 and 48 × 48, respectively—rated at 1400 HP. for the two, with a maximum of 2700 HP. These will replace two George H. Corliss non condensing engines, one 34 × 72 and one 30 × 72, having a total rated 1100 HP. Recently an 18 × 42 non condensing George H. Corliss engine, of 150 HP., used to drive the machinery in the rubber washing room, machine shop, and carpenter shop, was replaced by a 180 HP. General Electric Co. motor, driven by a new 300 kilowatt Edward P. Allis vertical compound generator. This generator will also furnish power for the 65 HP. General Electric motor necessary to deliver water from Mill river to the Bulkley injector condenser which is also being installed. The entire steam plant will be run on the condensing system, instead of the non condensing as heretofore.

THE SEAMLESS RUBBER CO.

THIS company has filed a certificate with the secretary of state at New Haven, of an increase of capital from $130,000 to an amount not exceeding $250,000. It is reported that an issue of $70,000 of new stock offered at par has been taken and paid for in cash. The additional capital is to be applied to the extension of the company's business, the enlargement of the plant, and the installation of new equipment.——The Seamless Rubber Co. have awarded a contract for an additional brick building on their premises, to be used as a storehouse.

WOONSOCKET RUBBER CO.

FREDERICK T. COMEE, for many years superintendent of the "Alice" mill, and for two years past in charge of the Millville mill, has resigned, his connection with the company terminating on June 6. It is not known whether an appointment will be made to fill the vacancy. At last accounts John Robson, the company's general superintendent, was at Millville, in personal charge of the plant.

WHY ONE SUIT FOR DAMAGES FAILED.

PAUL BEAUDREAU sued the Model Rubber Co. (Woonsocket, Rhode Island) for $3000, damages claimed for injuries received while he was employed by the company in their factory. It was claimed that because the point of a lever with which he worked was bent, it slipped from a socket when he tried to exert force upon a screw, and let him fall to the floor, thus breaking one of his legs. The court, in dismissing the case, held that the defect in the lever was so plain that in consenting to use it the plaintiff assumed the risk of danger.

NEW YORK'S FIRE HOSE SCANDAL.

THE trial of John J. Scannell, formerly fire commissioner of New York, on charges of conspiracy to defraud the city in the purchase of fire hose and other supplies, has been set down to begin on the first Monday in October next, in the criminal branch of the supreme court.

BUSY RUBBER FACTORIES AT NAUGATUCK.

A RECENT report from Naugatuck, Connecticut, stated that the condition of the rubber industry there had never been better. About 2000 persons were employed in the two factories of the United States Rubber Co.—the Rubber Glove and the "Wales-Goodyear" factories—producing more than 50,000 pairs of rubber boots and shoes daily, besides blankets, rubber gloves, and druggists' sundries. It is mentioned that while

Naugatuck rubber workers are frequently induced to go elsewhere to fill places in new factories, they generally find their way back to their old places and say that "Naugatuck is good enough for them."

PITTSBURG AND AMAZON RUBBER TRADING CO.

Incorporated May 18, at Washington, under the laws of the District of Columbia, with an authorized capital of $1,000,000, for the interchange of products between the Amazon valley and the United States. The following officers were elected, on May 29, at Pittsburgh, Pennsylvania, where the principal offices will be located: E. E. Gallup, president; W. H. Lippencott, vice president; Major J. Orton Kerbey (former United States consul at Pará), vice president and secretary; W E. Messenger, treasurer. The board of trustees includes H. T. Peterson, J. W. Leonard, D. J. Brown, George N. Kerbey (a son of Major Kerbey), and F. A. Pezet (secretary of the Peruvian legation at Washington). President Gallup is the Pittsburgh branch manager of a large rubber manufacturing company. The address of the new company is 410 Peoples Savings Bank building.

GOLF BALLS BOUGHT FOR RAW MATERIAL.

IN an interview published in an English newspaper Mr. B. G. Work, of The B. F. Goodrich Co., speaking of the golf ball situation in the United States, is reported as saying: "Before the 'Haskell' came out all the balls used on the other side of the Atlantic came from England. None are being imported this year. Over 30,000 dozen that were imported last year we bought, not unpacked—just as they came over—for the sake of the Gutta-percha of which they were made, and at the price of the material. That meant a dead loss of at least 5*s.* a dozen to the makers."

A SUBSTITUTE FOR SULPHIDE OF ANTIMONY.

MANY chemists and color makers have tried to produce a color that would take the place of the golden and crimson sulphides of antimony for use in rubber compounding, but thus far have not had any great success. Dr. M. Toch, of New York, who has given much attention to this and kindred subjects, has at last produced dry colors that after vulcanization cannot be told from antimony. The product is an oxide, is light in weight, very fine, and gives an especially soft velvety feeling to the finished goods. In color the golden yellow and the crimson of the antimony are exactly reproduced. The coloring matter contains no sulphur of course so that they have no curing qualities. Manufactured by Toch Brothers, No. 468 West Broadway, New York.

RUBBER MEN PLAY BALL.

THE fourth annual baseball contest between the Married Men and the Single Men of the New York office of the United States Rubber Co. occurred on June 6, at New Dorp, on Staten Island. The preceding games had resulted each year in a victory for the Benedicts, but the Bachelors this season entered the game confident of success. At the end of the sixth inning the two teams were running even, and but one more inning remained to be played, at the end of which the score was 24 to 23 in favor of the married men. Later the players dined at Boehm's Hotel, where they were joined by a score of their friends who had witnessed the game.

DATA WANTED ON INSULATION.

THE American Institute of Electrical Engineers has appointed a special committee for the purpose of collecting and publishing electrical engineering data for the benefit of its members. It is not the intention to publish information on well known subjects such as may be found in existing books, but special data in the possession of practical men which, while of value in their work, may not seem important enough to warrant a special publication. The committe invite all such information as may be disseminated without commercial disadvantage to the possessors of the data, the same to be printed as received, in the form of leaflets uniform in size, to be distributed to members of the Institute. On the list of subjects to be taken up by the new committee are the following, of interest to the rubber industry:

Carrying capacity of underground and overhead rubber and paper insulated cables, single conductor, duplex, and triple conductor.

Dielectric strength of commercial insulating materials.

Heating of cables of various sizes, paper or rubber, with various thicknesses of insulation.

NEW ENGLAND RUBBER CLUB.

THE executive committee have appointed the following committees to serve for one year:

Committee on Dinners—F. H. Jones, William Keyes, G. P. Whitmore, W. J. Kelley, O. A. Barnard.

Entertainment Committee—H. C. Pearson, Wm. F. Mayo, E. S. Williams, Theodore S. Bassett, William J. Cable.

Committee on Resolutions—Arthur W. Stedman, Eugene H. Clapp, George P. Whitmore.

Auditing Committee—George P. Eustis, J. Frank Dunbar.

Sports Committee—W. E. Barker, E. E. Wadbrook, F. C. Hood, F. D. Balderston, James H. Learned.

RECEIVER FOR SEARS PARA RUBBER CO.

EUGENE B. HOWELL, an attorney, of No. 346 Broadway, New York, on June 5, was appointed receiver for The Sears Pará Rubber Co., by the supreme court in Brooklyn, on the suit of Richard F. Sears, and gave bond for $25,000. Attorneys Henry Wollman and B. J. Downey appeared for the complainant; Attorney W. N. Dykman, for Charles R. Flint, resisted the application for a receiver. The Sears Pará Rubber Co. were incorporated in Virginia, July 16, 1897, and their business was largely as buying agents at Pará for the Crude Rubber Co., now in liquidation. The object of the present proceedings is to arrive at an accounting of the transactions with the last named company.

NEW YORK STOCK EXCHANGE QUOTATIONS.

UNITED States Rubber Co.:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending May 23	2,630	15¾	14½	1,117	52	50
Week ending May 29	1,240	15¾	14¼	1.220	51½	48½
Week ending June 6	1,060	14¾	13¾	635	50	47½
Week ending June 13	2,110	14¾	12½	1,750	50	46
Week ending June 20	950	13½	13	2,743	51	50

RUBBER Goods Manufacturing Co.:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High	Low.
Week ending May 23	6,300	25	23½	610	80½	79
Week ending May 29	2,370	24½	23⅜	340	79⅞	79
Week ending June 6	3.911	25¼	23⅛	717	80	77
Week ending June 13	3,300	24⅜	22⅜	700	78	77
Week ending June 20	310	23¾	23½	300	77⅞	77⅜

HISTORY OF A "KOKOMO" PICTURE.

AN interesting bit of history is connected with the handsome lithograph distributed lately by the Kokomo Rubber Co. (Kokomo, Indiana)—the portrait of a young woman, described as "The great granddaughter of Chief Kokomo." It appears that the Indiana town was named for Ko-ko-mo, a chief of the Miami tribe of Indians, who once occupied that region, and was at the head of the tribe when it was removed by the government to a reservation in the then new Indian Territory.

Some time ago the Kokomo Rubber Co. received a letter from a young woman in Wyoming, who had got hold of a pair of their bicycle tires and liked them, stating that she was a great granddaughter of the Indian chieftain for whom the town—and the company—had been named. The result of further correspondence was that the company obtained a portrait of the young woman and her consent to their use of it as an advertisement.

REESE WATERPROOF CO. (OAKLAND, CALIFORNIA).

THE work of construction of a factory has been commenced, on the land mentioned in THE INDIA RUBBER WORLD of April 1, as having been purchased by this company. Up to date the company have carried on their work on a very small scale, but with such results as to make them sanguine in regard to their new waterproofing process.

HARTFORD RUBBER WORKS CO.

FOLLOWING the resignation of William H. St. John, for two years past secretary and treasurer of this company, the duties of the position have been divided. James W. Gilson has been elected to the office of secretary and Frank H. Turner to that of treasurer. Mr. Turner has been vice president of the company since 1901, which office he retains, and Mr. Gilson, has been sales manager. The directorate now consists of Lewis D. Parker, F. H. Turner, Charles H. Dale, Harry Keene, and Ernest Hopkinson.——A contract has been awarded for the erection of a three story brick addition to the factory buildings, 63 × 155 feet in size.

THE GOODRICH BAND.

THE Goodrich band has for more than ten years been one of Akron's recognized musical organizations, and their services have been much in demand upon all public and many private occasions. Until the present summer the band has been active in all these things. It was December 14, 1891, that the band was organized, and Alfred Light, of the local factory of the American Hard Rubber Co. (then the Goodrich Hard Rubber Co.), was chosen and remained as leader of the organization. The normal strength of the band is twenty-five men. Their employers helped the organization in the purchase of instruments and uniforms, each member also contributing toward these expenses also. A rubber man suggests: "The ten or eleven years of this band's activity shows it to be not only the largest but the most lasting composition band in the rubber trade, perhaps. Its resiliency is to be tested at last, however, for the organization is at the point of dissolution. Its friends have abundant faith that it will rise again, for it is of excellent white stock."

AFFAIRS OF DRESSER & CO.

JUDGE HOLT, in the United States district court in New York, on June 22, signed an order permitting the receivers of Dresser & Co.—Charles W. Mac Kenzie and Robert C. Morris—to continue business until June 29. In the application the receivers state that since their appointment on April 1 they have collected $50,000 of the indebtedness due Dresser & Co. prior to the bankruptcy, and $190,000 due the firm on open accounts. On new business the receivers say they have collected $146,176 since April 1, and that there is still due Dresser & Co. on business secured by the receivers $139,290, and they actually have sold and delivered during their receivership merchandise to the amount of $295,000. The circumstances of the failure of Dresser & Co. (New York), jobbers of hosiery, silks, and elastic webbings, were reported in THE INDIA RUBBER WORLD April 1, 1903 (page 239.)

AMERICAN TUBING AND WEBBING CO.

THE plant of this company (Providence, Rhode Island) is still being operated by the receivers, Lorin M. Cook and Willard C. Perkins, whose appointment, on account of the embarrassment of the company due to the troubles in New York of the principal stockholder, Daniel Le Roy Dresser, was reported in THE INDIA RUBBER WORLD of April 1 (page 239). Mr. Cook is a stockholder and a prominent member of the Rhode Island bar. The present situation is that of awaiting the consummation, on July 7, of the offer of settlement made by Dresser & Co. [See THE INDIA RUBBER WORLD, May 1.] The appointment of receivers was made on the motion of Maurice H. Cook, a stockholder and son of Lorin H. Cook. He set forth that in a financial statement of December 31, 1902, the American Tubing and Webbing Co. showed a surplus over liabilities of $115,598.24, but that said statement did not embrace certain liabilities incurred through the issue by the treasurer of the company of drafts against Dresser & Co., and which were accepted by Dresser & Co., the same being for the accommodation of the latter firm and not for the legitimate running of the American Tubing and Webbing Co., which corporation received no consideration on account of said drafts. The petitioner alleged that the amount of these drafts exceeded the capital of the Tubing and Webbing company, and as certain of them would mature on

EMPLOYÉS' BAND OF THE B. F. GOODRICH CO. (AKRON, OHIO).

March 9, and as Dresser & Co. had become insolvent, the appointment of receivers was asked for, as a means of preventing the shutting down of the business, which was in a prosperous condition. The amount of the drafts referred to has not been made known. President Caldwell states that their issue had been going on for some time, being practically the loan of the company's name to Mr. Dresser, who for three years had been the principal shareholder of the company and its financial backer and New York agent. The company is capitalized at $276,000. The shareholders are L. M. Cook, James M. Ripley, M. H. Cook, D. Le Roy Dresser, Alfred Caldwell, and G. M. Thurlow. Mr. Caldwell is president and Mr. Thurlow treasurer. Mr. Thurlow was general manager of the Narragansett Web Co. (Newport, Rhode Island), prior to the purchase of that business by the American Tubing and Webbing Co., in 1901. He explains his action as treasurer in issuing the drafts to Dresser & Co. by saying that as Mr. Dresser was the chief shareholder and was financially the company, his requests were complied with, as it was supposed that they were all right.

THE INDIA RUBBER CO. OF NEW JERSEY.

WITHIN a few days a new corporation will be formed under the laws of New Jersey with the above name, to form one of the constituent companies of the Rubber Goods Manufacturing Co. The new company will succeed to the business of the India Rubber Co. of Akron, Ohio, the factory of which was burned in March last, and will not be rebuilt. The India Rubber Co. of Akron as a corporation will not, however, be dissolved. The new company will operate the factory at New Brunswick, New Jersey, owned by the Rubber Goods Manufacturing Co. This factory, originally owned by the New Brunswick Rubber Co., manufacturers of rubber shoes, passed into the control of the United States Rubber Co. in 1892, and later was devoted by that company to the manufacture of tires. Still later the plant was acquired by the present owners. Work is now in progress in preparing the factory for its new use, and it will be in operation again by the end of summer.

NEW INCORPORATIONS.

THE Fawkes Rubber Co. (Denver, Colorado), incorporated May 25, 1903, under Colorado laws; capital, $50,000, full paid. Officers: Charles W. Enos, M. D., president; John MacMillan, vice president; James N. Chipley (former state treasurer), secretary and treasurer. Charles G. Fawkes is general manager. The company have been formed to exploit the "Fawkes indestructible airless motor tire," for which United States patent No. 682,977 was granted September 17, 1901, to Ernest A. Dibbens, of Denver, assignor to Charles G. Fawkes. The company advise THE INDIA RUBBER WORLD: "At present we are manufacturing the tires in Akron, Ohio, but if satisfactory freight rates can be secured the probabilities are we shall erect our factory in Denver. Our new tire has been used in Denver on carriages for nearly a year, and has proved eminently successful." Office address: No. 1526 Stout street, Denver.

=Continental Caoutchouc Co., incorporated June 23, 1903, under New York laws; capital $5000. Incorporators: William Tischbein (of the Continental Caoutchouc- und Gutta-percha Compagnie), Hannover, Germany; Joseph L. Kahle and Marcell Kahle, importers, No. 48 West Fourth Street, New York.

=American Chemical Co., incorporated June 3, 1903, under Maine laws, to buy and sell crude India-rubber, Gutta percha, and naphtha; capital, $25,000; nothing paid in. F. L. Dutton president and E. F. Whittam treasurer—both of Augusta, Maine.

=Sterling Rubber Manufacturing Co., incorporated June 15, 1903, under New Jersey laws, to manufacture rubber goods; capital, $300,000. Incorporators: Joseph F. Cotter, G. W. Grand, and William F. Ridell. Principal office: No. 419 Market street, Camden, New Jersey.

=Froehlich Rubber Refining Co., June 5, 1903, under Pennsylvania laws; capital, $9000. The treasurer of the company is Jesse Froehlich, No. 1320 Jerome street, Philadelphia.

TRADE NEWS NOTES.

THE Boston Woven Hose and Rubber Co., on June 15 distributed their regular semi annual dividend of 3 per cent.

=The Victor Rubber Tire Co. (Springfield, Ohio) have added a line of cushion rubber tires to their production.

=Albert T. Morse, of A. T. Morse & Co., India-rubber merchants (New York), attended a recent inscription sale at Antwerp.

=The Rubber Trading Co. (New York) have enlarged their quarters by taking the whole of the upper floor of No. 38 Murray street.

=C. E. Mathewson has succeeded W. H. Nash as manager of the Pacific Coast branch of the Diamond Rubber Co., in San Francisco.

=Several of the best retail houses in Ontario hold stock in the new Merchants Rubber Co., Limited (Berlin, Ontario), mentioned in these pages last month. It will be the company's policy to confine their Ontario business strictly to the retail trade.

=The Milford (Massachusetts) Rubber Co., by increasing the number of their employés, have put an end to night work, and hope to be able to handle their orders during ten hour days during the summer.

=The Plant Rubber Co. (Minneapolis, Minnesota) were losers to a slight extent by a fire on June 2, which damaged the building, No. 202 Nicollet street, in which a portion of their business is located.

=The bursting of a flywheel 18 feet in diameter in the factory of the Gutta Percha and Rubber Manufacturing Co. of Toronto, Limited, on May 30, caused the death of Albert Holden, an employé, aged 25.

=The rubber shoe manufacturers of Canada on May 15 changed the discount rate to retailers from 25@5 per cent. to 25 per cent.

=The latest souvenir issued by the Eureka Fire Hose Co. (Jersey City, New Jersey) is a pack of playing cards, the backs of which are of a special design attractively incorporating the well known "Eureka" trade mark. The "joker" also shows the trade mark. The cards are packed in a case ornamented with a view of the Eureka factory and are being distributed to fire department officials throughout the country.

=Harry T. Dunn, sales manager for the Fisk Rubber Co. (Chicopee Falls, Mass.), sailed from Boston on June 2 for London, having planned a vacation in Europe of two or three months, during which he doubtless will also devote some attention to pushing the new Fisk detachable automobile tire.

=A petition in bankruptcy has been filed in the United States court against the Edward G. Milbury Co., dealers in oiled and rubber clothing, No. 38 Walker street, New York, which concern since April 24 last has been in charge of a receiver appointed by the state court—Edward G. Milbury, president of the company. The purpose of the new proceeding is to inquire into the validity of certain claims against the estate. The United States court has appointed William Ford Upson receiver.

=Mr. William Burlingham has accepted an appointment as chief engine designer with The B. F. Sturtevant Co. (Hyde Park, Massachusetts), resigning a position in the United States inspection office with the William R. Trigg Co. (Richmond,

Virginia). Mr. Burlingham has previously been associated with the Bath Iron Works, the General Electric Co., the Southwark Machine and Foundry Co., and the Newport News Ship-Building and Dry-Dock Co. He has also served on Mr. Thomas A. Edison's staff at the East Orange laboratory and is a graduate of the Worcester Polytechnic Institute.

=The Single Tube Automobile and Bicycle Tire Co. (New York) have removed their offices to the Postal Telegraph building, No. 253 Broadway.

=The Bowers Rubber Co. (San Francisco, California) have given up their store at No. 242 Purchase street, Boston.

=Mr. A. H. Alden, of the New York Commercial Co., is now in Europe, presumably studying the crude rubber situation.

=The J. E. Davis Rubber Works Co. (Buffalo, New York), whose incorporation was reported recently in this paper, are already filling orders for mold work on an encouraging scale, and Mr. Davis is convinced that Buffalo affords a good location for the manufacture and distribution of rubber goods.

=Charles J. Butler has been elected vice president and general manager of Morgan & Wright, Incorporated (Chicago) and is now in personal charge of the factory. Lewis D. Parker, on account of pressure of other duties, has resigned as president of the company, and his successor remains to be chosen.

=The directors of the U. S. Rubber Reclaiming Works (New York) have declared a quarterly dividend of 2 per cent. on the preferred stock, payable on July 1.

=A report reaches THE INDIA RUBBER WORLD that the Insulated Wire Co., formed not long ago at Tokyo, with C. Ogihara as superintendent, has gone out of business.

=The Boston Belting Co. (Boston) have mailed lately to their customers a pictorial advertising hanger, entitled "The Original Rubber Man," that is strikingly novel and certain to attract attention. The company will be pleased to supply it to any dealer who may request it.

=Mr. Basil S. Courtney, lately manager of the tire department of the New York Belting and Packing Co., Limited, has resigned his connection with the company, they having discontinued the manufacture of tires.

PERSONAL MENTION.

MR ISIDOR FRANKENBURG, the founder and head of Isidor Frankenburg, Limited, manufacturers of mackintoshes, insulated wire cables, and rubber boots and shoes, and alderman and justice of the peace for Salford, Manchester, England, was a recent visitor to the United States and Canada, during which time he favored the offices of THE INDIA RUBBER WORLD with a call.

=One of the largest June weddings at Albany, New York, this year, was that of Miss Ruth Williams Pruyn, daughter of Mr. and Mrs. Robert C. Pruyn, to Mr. David Marvin Goodrich, of Akron, Ohio—a son of the late Dr. B. F. Goodrich, the founder of the India-rubber industry in the latter city. The date of the wedding was June 2. Miss Alice Roosevelt, daughter of the President of the United States, was one of the bridesmaids. It is understood that Mr. and Mrs. Goodrich will reside in Boston.

=A special 112 page issue of *The Evening Scimitor*, of Memphis, Tennessee, on the occasion of the opening of their new office building, contains many indications of the growth and prosperity of that important southern city. Portraits of Messrs. H. N. Towner and Paul Towner, of the rubber goods house of Towner & Co., appear prominently among the sketches of "Representative Business Men of Memphis."

=Mr. John D. Carberry, assistant secretary of the United States Rubber Co., is an enthusiastic philatelist, being secretary and treasurer of the philatelic branch of the Brooklyn Institute, which has lately installed a permanent stamp exhibit that is one of the most important collections in existence.

REVIEW OF THE CRUDE RUBBER MARKET.

THE month closes with an advance in Pará goods, equal in some grades to the decline recorded in these pages one month ago. The situation may best be illustrated by a comparative table, as follows:

PARA.	April 29.	May 28.	June 29.
Islands, fine, new	90@91	87@88	88@89
Islands, fine, old	92@93	91@92	92@93
Upriver, fine, new	92@93	91@92	93@94
Upriver, fine, old	98@99	97@98	98@99
Islands, coarse, new	59@60	56@57	56@57
Islands, coarse, old	@	@	@
Upriver, coarse, new	72@73	72@73	72@73
Upriver, coarse, old	@	@	@
Caucho (Peruvian) sheet	59@60	57@58	56@57
Caucho (Peruvian) ball	70@71	63@69	70@71

There has been little to record in the New York market for other sorts, the quotations for which are almost without change, as follows:

AFRICAN.			
Sierra Leone, 1st quality	82	@83	
Massai, red	82	@83	
Benguella	68	@69	
Cameroon ball	61	@62	
Gaboon flake	40	@41	
Gaboon lump	43	@44	
Niger paste	20	@21	
Accra flake	20	@21	
Accra buttons	58	@59	
Accra strips	60	@61	
Lopori ball, prime	82	@83	
Lopori strip, do	79	@80	
Ikelemba	82	@83	
Madagascar, pinky	79	@80	
CENTRALS.			
Esmeralda, sausage	68	@69	
Guayaquil, strip	62	@63	
Nicaragua, scrap	67	@68	
Panama, slab	55	@56	
Mexican, scrap	67	@68	
Mexican, slab	55	@56	
Mangabeira, sheet	52	@53	
EAST INDIAN.			
Assam	82@83		
Borneo	@		

Receipts of rubber (including Caucho) at Pará, for the crop season, up to June 26—with only four days remaining to complete the year—aggregated 29,480 tons. This amount has been exceeded in only one year. The total arrivals for five years past have been as follows:

	1898-99.	1899-00.	1900-01.	1901-02.	1902-03.
Tons	25,370	26,670	27,610	30,007	29,480*

[* July 1, 1902 to June 26, 1903.]

Late Pará cables quote:

	Per Kilo.		Per Kilo.
Islands, fine	5$550	Upriver, fine	6$400
Islands, coarse	2$950	Upriver, coarse	4$700

Exchange, $12\frac{3}{16}d.$

Last Manáos advices:

Upriver, fine	6$200	Upriver, coarse	4$300

Exchange, $12\frac{7}{32}d.$

NEW YORK RUBBER PRICES FOR MAY (NEW RUBBER).

	1903.	1902.	1901.
Upriver, fine	91@94	71 @74½	89 @93
Upriver, coarse	71@73	56 @60	62 @65
Islands, fine	87@91	70 @73½	85 @90
Islands, coarse	56@60	45 @49	51 @60
Cametá, coarse	60@64	51½@53	58 @63

In regard to the financial situation, Albert B. Beers (broker in India-rubber, No. 58 William street, New York), advises us as follows:

"During June there has been a good supply of money on call at low rates, but a very small demand for paper, and almost entirely from out-of-town banks at rates ranging from 5½ @ 6½ according to the grade of paper."

Rubber Scrap Prices.

NEW YORK quotations—prices paid by consumers for carload lots—are again slightly lower, as follows:

Old Rubber Boots and Shoes—Domestic	6⅞	@ 7
Do —Foreign	6	@ 6⅛
Pneumatic Bicycle Tires	4	@ 4⅛
Solid Rubber Wagon and Carriage Tires	7	
White Trimmed Rubber	9¼	@ 9½
Heavy Black Rubber		4¼
Air Brake Hose	2⅞	@ 3
Fire and Large Hose		2½
Garden Hose		1½
Matting		1

Statistics of Para Rubber (Excluding Caucho).

NEW YORK.

	Fine and Medium.	Coarse.	Total 1903.	Total 1902.	Total 1901.
Stocks, April 30. ....*tons*	491	64 =	555	492	994
Arrivals, May	678	348 =	1026	1040	1155
Aggregating.....	1169	412 =	1581	1532	2149
Deliveries, May	697	343 =	1040	980	1254
Stocks, May 31.....	472	69 =	541	552	895

	PARÁ.			ENGLAND.		
	1903.	1902.	1901.	1903.	1902.	1901.
Stocks, April 30..*tons*	150	2240	170	1675	170	1425
Arrivals, May.....	2070	1580	1165	650	2865	600
Aggregating	2220	3820	1335	2325	3035	2025
Deliveries, May.....	2105	3740	1185	925	960	675
Stocks, May 31...	115	80	150	1400	2075	1350

	1903.	1902.	1901.
World's supply, May 31.....*tons*	2996	3650	3102
Pará receipts, July 1 to May 31..	25,226	25,494	22,911
Pará receipts of Caucho, same dates	3704	3236	2383
Afloat from Pará to United States, May 31...	500	533	377
Afloat from Pará to Europe, May 31.....	440	410	330

Liverpool.

EDMUND SCHLÜTER & CO. report Liverpool stocks:

	Apr. 30.	May. 31.			Apr. 30.	May. 31	
Pará—1st hands..	1041	905	tons.	Peruvians.....	249	243	tons.
Fine.....	842	738	"	Africans..... ...	351	330	"
Medium.....	117	86	"	Mollendo.....	70	161	pkg.
Negroheads	82	81	"	Mangabeira.....	8	91	"
Pará—2d hands..	640	497	"	Pernambuco.....	85	18	"
Fine	563	460	"	Manicoba.....	222	242	"
Medium.	38	18	"	Ceará.....	97	26	"
Negroheads	36	19	"	Assare.....	55	46	"
Total Pará.....1681		1402	"				

MESSRS. SCHLUTER & CO. report that the rubber auction of June 17, when .1595 cwt. was offered, elicited no bidding. The market had shown no life during a week, but closed with a firmer tone. "There would be buyers of spot and July-August hard fine at 3*s.* 10*d.*—perhaps even at ¼*d.* more in the latter position, and of August-September soft at 3*s.* 8¾*d.*, at which figure spot rubber could probably be bought."

London.

EDWARD TILL & CO., report stocks June 1:

		1903.	1902.	1901.
LONDON	Pará sorts.....*tons*	—	—	—
	Borneo.....	13	121	168
	Assam and Rangoon... ...	5	23	40
	Other sorts....	209	432	528
	Total.....	227	576	736
LIVERPOOL	Pará.....	1402	2084	1355
	Other sorts....	619	1027	1411
	Total, United Kingdom.....	2248	3687	3502
	Total, May 1....	2539	3788	3597
	Total, April 1.....	2525	3326	3522
	Total, March 1... ...	1939	3078	2989
	Total, February 1....	1921	2674	3129
	Total, January 1	1582	2794	2901

S. FIGGIS & CO. report [June 12] an easier market, with small sales hard fine Pará at 3*s.* 10*d*, forward delivery, 3*s.* 10¼*d.*@3*s.* 10¾*d.*; soft fine, 3*s.* 9¼*d.* Entre fine, neglected. Negroheads lower; scrappy 2*s.* 11*d.*@3*s.*; Cametá, 2*s.* 6*d.* Peruvian ball, 3*s.*@2*s.* 11*d*; slab, 2*s.* 4*d*, sellers. A moderate competition in to-day's auctions. Mangabeira sold readily: Santos sheet, clean but part spongy, 2*s* 7*d.* Good Central American scrap, 3*s.*; Cartagena slab mixed dirty at 1*s.* 9½*d.*

Ceylon.—Fourteen packages sold; fine thin biscuits (Pará), 4*s.* 4*d.*; ditto slightly heated, 4*s.* 3*d.*; small lot weakish, 4*s.* 1*d.*; clean Ceará strips, 3*s.* 2¼*d.* [At the auction of May 29 Ceylon fine sold 4*s.* 3¾*d.*; scrap, 3*s.* 3½*d.*]

Balata.—Eighty packages sold; fair sheet, 2*s.* 6*d.*; mixed rough and thick, 2*s.*; brittle and inferior rejections 1*s.* 2½*d.* [At auction of May 29, Balata neglected, and 352 packages withdrawn.]

Hamburg.

TO THE EDITOR OF THE INDIA RUBBER WORLD: During the past week the tone of the rubber market here remained exceptionally quiet along the whole line; the tendency of business being very dragging, at receding prices. An inclination to sell became notable in Upriver fine, prompt; Peruvian balls are to be recorded as light; Negroheads, scrappy, were well maintained. Mollendo received slightly better inquiries, but owing to the high price ideas of the holders few transactions were made; value of fine, 8.40 marks per kilogram.

Middle sorts continue to be very short, the quantities in store being of no importance. Mozambique, Madagascar, Thimbles, and Bissao are but weakly represented. Massai remained dull, and lump sorts, after a weak opening, improved some. Ecuador and Columbia scraps were enabled to maintain their former stand. Gambia, Adeli Niggers and Borneo showed for inquiries. Kamerun and Batanga balls, Mangabeira, Benguella and Loanda niggers, and Guatemala sheets were neglected.

Hamburg, June 13, 1903.

Antwerp.

TO THE EDITOR OF THE INDIA RUBBER WORLD: At yesterday's sale by inscription about 480 tons of rubber were offered, and about 450 tons sold. Prices were irregular, though the general tone was good. On the whole, however, there was a decline of about one-half of one per cent. Among the large lots which sold above valuations were:

		Valuation.	Sold.
22 tons	Upper Congo—Aruwimi..... ....*francs*	8.50	8.72½
20 "	Upper Congo—ordinary.....	9 25	9.42½
13 "	Lake Leopold II	9.10	9.32½

Among lots selling below valuations were:

22 tons	Upper Congo—Mongalla...	9.	8 90
11 "	Congo Kassai red.....	9.25	9.10
13 "	Upper Congo—Lopori I	9 65	9 50
10 "	Upper Congo—Lopori II.....	8.50	8.05
5 "	Upper Congo—Uelé.....	9.	8 75
37 "	Upper Congo—Uelé.....	9.	8.70

The next large sale will take place at the end of June. Stocks to-day about 375 tons. C. SCHMID & CO.

Antwerp, May 27, 1903.

RUBBER ARRIVALS AT ANTWERP.

JUNE 4.—By the *Nigeria*, from the Congo:

Bunge & Co.....(Société Générale Africaine)	*kilos*	125,000	
Do .....(Comite Spécial Katanga)		5,000	
Do .....(Société Anversoise)		13 000	
Société Equatoriale Congolaise		7,600	
Comptoir Commercial Congolais.....		18,400	
Société A B I R		76,000	
Société Coloniale Anversoise..(Belge du Haut Congo)		17,600	
Do .....(Cie. du Lomami)		22,500	
Do ....(Süd Kamerun)		4,900	
Do ... ... (Société La Lulonga)		3,500	
Do ....(Cie. du Kasai)		20,600	
M. S. Cols.....		3,000	
Do		700	
Th. De Bruyne..... ... .(Cie. du Kouango)		2,700	
W. Mallinckrodt & Co..... ....(Alimaienne)		9,500	330,000

The Congo Rubber Movement.

EXPORTS of rubber from the Congo Free State during 1902 are officially stated as follows:

	Kilos.	Value.
Total rubber exports	5,804,030	45,271,434 francs.
Product of the State	5,350,452	41,783,585 "

The arrivals at Antwerp during the year 1902 embraced 5,403,985 kilograms, from all sources, of which 4,992,954 kilograms were from the Congo Free State. The difference between the Antwerp receipts and the output of the Free State is doubtless to be accounted for in the Rotterdam trade in Congo rubbers, the arrivals there of this grade in 1902 having amounted to 899,750 kilograms.

Bordeaux.

R. HENRY & CO. report [June 8] a very calm market, with prices lower by 15@20 centimes per kilogram. Arrivals during the week were 21,000 kilograms Casamance and 5000 kilograms Soudan. Stocks remaining were 6789 kilograms Soudan and 5500 Mayumba.

Para.

KANTHACK & CO. report [June 8]: "In consequence of adverse influences in the consuming centers, a quiet tone has pervaded this market, interrupted occasionally by a transitory appearance of better demand; altogether, business is now confined within narrow limits on account of small supplies, which, in accordance with the pending close of the present and reopening of the new crop season, will remain of slender dimensions for some months to come."

Rubber Product of the Lower Amazon.

IN a review of rubber statistics from Manáos for the calendar year 1902, in the June number of this Journal, we estimated the rubber product of the state of Pará for that period at 10,832½ tons. This estimate is practically confirmed by some details since supplied to THE INDIA RUBBER WORLD by a leading house in Pará, which permits the following comparison to be made of the arrivals at Pará during two whole crop seasons, and eleven months of the last season, as distinguished between produce of Pará state and of the Upriver regions. The figures indicate metrical tons and include Caucho:

	Pará state	Upriver.	Total.
Crop year 1900-01	9,238	18,372	27,610
Crop year 1901-02	10,420	19,662	30,000
July-May 1902-03 (11 months)	10,489	17,823	28,090

The first interest in these figures is in their showing of the sustained production of rubber on the lower Amazon. In spite of this region having been longest worked, and presumably more closely worked than any other in South America, the fact remains that the volume of receipts from Pará state is now larger than ever before. It is true that, by the extension of rubber gathering into the state of Amazonas, up the river, and into Bolivia and Peru, the product of Pará is now greatly exceeded by that from the new fields, but not because of any decline in the Pará output. The figures credited to Pará do include nowadays some rubber collected in the state of Matto Grosso, and arriving via the river Tapajoz, but this is estimated by our correspondent not to exceed 50 to 100 tons in a year. Another point of interest is the increasing production in Pará state of Caucho, which formerly was obtained only upstream. The entries of Pará Caucho increased from 66 tons in 1900-01, and 82 tons in 1901-02, to 322 tons [=708,400 pounds] in the first eleven months of the crop year just closed.

Following are some figures from other sources, stating the total entries of rubber (and Caucho) at Pará for several crop years, and the amount of the same produced in the state of Pará, showing the production of that state to have increased steadily. [The asterisk (*) indicates quantities on which export duties were collected in certain years—practically the same thing as the amounts arrived]:

	Total.	Pará.		Total.	Pará.
1889-90	15,300	4,644*	1894-95	19,430	8,210*
1890-91	16,890	7,304*	1895-96	21,020	8,708*
1891-92	18,440	6,474*	1896-97	22 320	8,576
1892-93	18,990	8 241*	1897-98	22,250	8 919
1893-94	19,710	8,049*	1898-99	25,370	9,839

It is of course an encouraging fact, if it be proved that the *Hevea* rubber species are capable of such treatment that they may be kept productive indefinitely. It would appear, from the above figures, to be a mistaken idea that rubber gatherers have constantly gone further up the Amazon because the earlier rubber fields had become exhausted. They go upriver to meet a steadily increasing demand for rubber. New rubber fields are undoubtedly richer in yield at first, and new settlements afford for awhile the possibility of larger profits in bartering merchandise to native rubber gatherers, but there appears to be still enough profit possible in the lower Amazon region to keep up the rate of production, and to enlarge it year by year.

Rubber Receipts at Manaos.

DURING May and for the first eleven months of the crop season [by courtesy of Messrs. Witt & Co.]:

FROM—	MAY.			JULY-MAY.		
	1903.	1902.	1901.	1903.	1902.	1901.
Rio Purús ..... *tons*	420	360	291	5912	6673	5931
Rio Madeira	89	62	66	2219	2756	2553
Rio Jurua	183	137	61	3576	3558	2882
Rio Javary—Iquitos	29	88	8	1502	1301	1239
Rio Solimões	43	22	50	1348	1530	1172
Rio Negro	16	13	38	651	369	508
Total	780	682	514	15238	16217	14285
Caucho	596	498	743	3354	3285	3619
Total	1376	1180	1257	18592	19502	17904

ORDERS have been issued for the collection of export duties on all Acre rubber shipped abroad direct at the rate of 23 per cent. *ad valorem*—the same as ruling at Manáos. When the rubber is consigned to Manáos or Pará, export duties are to be collected at those ports. Of the duties on all rubber proceeding from the upper Acre (south of parallel 10° 10′) 11½ per cent. is to be credited to the Bolivian government. While Bolivia controlled the Acre customs, the export duty on rubber was 15 per cent. *ad valorem*.

IMPORTS FROM PARA AT NEW YORK.

[*The Figures Indicate Weights in Pounds.*]

June 3.—By the steamer *Amazonense*, from Manáos and Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Caucho.	Total
Poel & Arnold	113,500	58,700	54,200	71,000=	297,400
A. T. Morse & Co.	146,500	28,700	38,600	43,000=	256,800
New York Commercial Co.	81,500	13,300	35,700	2,800=	133,300
Edmund Reeks & Co.	.....	.....	....	33.000=	33,000
United States Rubber Co.	.....	.....	31,600	.....=	31,600
Thomsen & Co	2,300	.....	5,800	.....=	8,100
L. Hagenaers & Co.	2,800	.....	3,000	.....=	5,800
H. A. Gould Co.	1,400	.. ..	600	.....=	2,000
Total	348,000	100,700	169,500	149,800=	768,000

June 24.—By the steamer *Hilary*, from Manáos and Pará:

Poel & Arnold	30,300	14,000	44,300	33,200=	121,800
A. T. Morse & Co.	43,100	7,700	68,900	300=	120,000
New York Commercial Co.	51,400	9,100	26,500	10,400=	97,400
Hagemeyer & Brunn.	12,100	300	5,200	20,700=	38,300
United States Rubber Co.	....	....	.....	29,100=	29,100
William Wright & Co.	13,300	1,800	13,700	.....=	28,800
Edmund Reeks & Co.	8,800	2,000	4,900	.....=	15,700
Lionel Hagenaers & Co.	7,000	.....	4,400	.....=	11,400
Total	166,000	34,900	167,900	93,700=	462,500

June 13.—By the steamer *Gregory*, from Manáos and Pará:

A. T. Morse & Co.	34,900	9,400	81,400	63,200= 188,900
United States Rubber Co.	90,300	14,700	22,800	600= 128,400
New York Commercial Co.	48,000	10,000	30,300	39,800= 128,700
Poel & Arnold	12,400	9,100	33,400	72,000= 126,900
Edmund Reeks & Co.	2,400	700	3,800	20,100= 27,000
L. Hagenaers & Co.	8,600	.....	5,200	.....= 13,800
Hagemeyer & Brunn.	6,000	600	4,000	....= 10,600
H. A. Gould Co	4,000	300	1,300	....= 5,600
William Wright & Co.	.....	....	2,500	....= 2,500
Total	207,200	44,800	184,700	195,700= 632,400

[NOTE.—The steamer *Benedict*, due at New York on July 2, has on board 200 tons of Rubber and 40 tons of Caucho.]

PARA RUBBER VIA EUROPE.

	POUNDS.
MAY 28.—By the *Oceanic*=Liverpool:	
George A. Alden & Co. (Caucho)	22,500
JUNE 1.—By the *La Savoie*=Havre:	
Poel & Arnold (Caucho)	36,000
JUNE 1.—By the *Umbria*=Liverpool:	
George A. Alden & Co. (Fine)	12,000
JUNE 4.—By the *Teutonic*=Liverpool:	
George A. Alden & Co. (Fine)	11,500
JUNE 20.—By the *Campania*=Liverpool:	
William Wright & Co. (Fine)	6,500

OTHER ARRIVALS AT NEW YORK

CENTRALS.

	POUNDS.	
MAY 25.—By the *Excelsior*=New Orleans:		
A. T. Morse & Co.	6,000	
Manhattan Rubber Mfg. Co	2,000	8,000
MAY 26.—By the *Yucatan*=Colon:		
G. Amsinck & Co.	7,500	
H. Marquardt & Co.	3,700	
American Trading Co.	2,500	
W. Loaiza & Co	1,100	
Lawrence Johnson & Co.	1,500	
Maldonado & Co	600	
F. Probst & Co.	500	
Meyer Hecht	200	
E. B. Strout	400	
United Fruit Co	700	
Kunhardt & Co.	200	18,500
MAY 29.—By *El Paso*=New Orleans:		
A. T. Morse & Co.		7,00
MAY 29.—By the *Patricia*=Hamburg:		
Poel & Arnold		2,200
JUNE 1.—By the *Cervantes*=Bahia:		
J. H. Rossbach & Bros.	30,000	
Allerton D. Hitch	4,500	34,500
JUNE 1.—By the *Comus*=New Orleans:		
Manhattan Rubber Mfg. Co.	10,000	
A. N. Rotholz	3,000	
A. T. Morse & Co.	1,000	14,000
JUNE 1.—By the *Havana*=Mexico:		
H. Marquardt & Co	9,500	
F. Probst & Co.	8,000	
Harburger & Stack	3,000	
E. Steiger & Co.	1,500	
Graham, Hinkley & Co.	1,500	
American Trading Co	1,000	
Samuels & Cummings	1,000	
Willard, Hawes & Co.	1,000	
Isaac Kubie & Co.	500	
Louis A. Levy	500	
L. N. Chemedlin & Co.	100	
E. N. Tibbals & Co.	200	
For Hamburg	3,000	30,800
JUNE 2.—By the *Alene*=Savanilla:		
G. Amsinck & Co.	4,500	
Breuer, Moller Co.	1,000	
E. B. Strout	1,500	
Andreas & Co	1,500	
J. A. Farrali Bros	300	8,800
JUNE 3.—By the *Athanea*=Colon:		
Fidanque Bros. & Co.	1,800	
Isaac Brandon & Bros.	2,000	
G. Amsinck & Co.	1,200	
Smithers, Nordenholt & Co.	1,000	
H. Marquardt & Co.	900	
Silva, Bussenius & Co	400	
For Antwerp	4,000	11,400
JUNE 9.—By the *Chalmette*=New Orleans:		
Manhattan Rubber Mfg. Co.	5,000	
A. T. Morse & Co.	2,300	
K. Mandell & Co.	1,500	8,500
JUNE 9.—By the *Seguranca*=Colon:		
Silva, Bussenius & Co.	1,700	
H. Marquardt & Co	1,200	
Kunhardt & Co.	900	
A. D. Straus & Co.	800	
W. R. Grace & Co	700	
Eggers & Heinlein	800	
G. Amsinck & Co.	400	
D. N. Carrington & Co.	700	
Andreas & Co	300	
J. W. Wilson & Co.	300	
Graham, Hinkley & Co.	200	8,000
JUNE 10.—By the *Alleghany*=Cartagena:		
G. Amsinck & Co.	2,500	
Guiterman, Rosenfeld & Co.	2,000	
Lawrence Johnson & Co.	2,000	

CENTRALS—Continued.

American Trading Co	500	
A. D. Straus & Co.	300	
C. Wessels & Co.	500	
Punderford & Co	200	
Pedro A. Lopez	200	8,200
JUNE 11.—By *El Dia*=New Orleans:		
A. T. Morse & Co.	2,000	
Eggers & Heinlein	1,500	
A. S. Lasceiles & Co.	700	4,200
JUNE 15.—By the *Vigilancia*=Mexico:		
Thebaud Bros.	2,500	
L. N. Chemedlin & Co.	2,000	4,500
JUNE 16.—By the *Valencia*=Savanilla:		
G. Amsinck & Co.	1,800	
Kunhardt & Co.	1,500	
Lawrence Johnson & Co.	1,100	
C. Wessels & Co	300	
D. A. De Lima & Co.	300	
Mecke & Co	300	5,000
JUNE 16.—By the *Saratoga*=Colon:		
Roldan & Van Sickle	5,400	
A. Santos & Co.	2,600	
Andreas Co.	2,600	
A. N. Capen Sons	2,400	
Fidanque Bros. & Co	2,300	
Piza, Nephews & Co.	1,900	
Isaac Brandon & Bros.	1,700	
G. Amsinck & Co.	1,400	
Lawrence Johnson & Co	1,100	
Everett, Heaney & Co	800	
E. B. Strout	700	
W. Loaiza & Co	700	
F. Probst & Co.	200	
M. A. de Leon	200	
Hirzel, Feltman & Co.	400	24,300
JUNE 18.—By the *Egyptian Prince*=Bahia:		
J. H. Rossbach & Bros.	45,000	
Booth & Co.	22,000	
F. B. Ross & Co.	3,500	70,500
JUNE 20.—By *El Paso*=New Orleans:		
A. T. Morse & Co.	3,500	
A. N. Rotholz	4,000	
Eggers & Heinlein	2,500	
G. Amsinck & Co.	800	10,800
JUNE 20.—By the *Campania*=Liverpool:		
George A. Alden & Co.		8,000
JUNE 22.—By the *Monterey*=Mexico:		
E. Steiger & Co.	1,500	
Graham, Hinkley & Co.	1,000	
Harburger & Stack	1,000	
W. Loaiza & Co	1,000	
H. Marquardt & Co	1,000	5,500
JUNE 22.—By the *Byron*=Bahia:		
J. H. Rossbach & Bros.	26,500	
Allerton D. Hitch	7,000	33,500
JUNE 23.—By the *Yucatan*=Colon:		
H. Marquardt & Co.	2,000	
Samuels & Cummings	1,500	
Lawrence Johnson & Co.	1,700	
D. A. DeLima & Co.	1,900	
G. Amsinck & Co.	1,300	
Livingstone & Co.	800	
E. B. Strout	100	
Meyer Hecht	100	
Eggers & Heinlein	300	9,700

AFRICANS.

	POUNDS.	
MAY 25.—By the *Bleucher*=Hamburg:		
George A. Alden & Co.	25,000	
Rubber Trading Co	15,000	
Joseph Cantor	6,000	46,000
MAY 25.—By the *Columbia*=Glasgow:		
Poel & Arnold		11,000
MAY 26.—By the *Vaderland*=Antwerp:		
A. T. Morse & Co.		50,000
MAY 28.—By the *Oceanic*=Liverpool:		
Poel & Arnold	32,000	
George A. Alden & Co.	7,000	
United States Rubber Co	6,000	45,000
MAY 29.—By the *Patricia*=Hamburg:		
George A. Alden & Co.	6,000	
Otto Meyer	3,500	9,500
JUNE 1.—By the *Umbria*=Liverpool:		
George A. Alden & Co.	13,000	
Poel & Arnold	6,000	
A. T. Morse & Co	4,000	23,000
JUNE 2.—By the *Noordam*=Rotterdam:		
Rubber Trading Co.		11,000

AFRICANS—Continued.

JUNE 2.—By the *Moltke*=Hamburg:		
Otto Meyer		11,000
JUNE 5.—By the *Peninsular*=Lisbon:		
United States Rubber Co.		56,000
JUNE 8.—By the *Lucania*=Liverpool:		
George A. Alden & Co.	18,000	
Otto Meyer	5,000	
William Wright & Co.	3,500	
Rubber Trading Co.	5,500	32,000
JUNE 9.—By the *Zeeland*=Antwerp:		
A. T. Morse & Co.	94,000	
Joseph Cantor	64,000	
Poel & Arnold	22,000	180,000
JUNE 11.—By the *Pretoria*=Hamburg:		
Poel & Arnold	12,500	
A. T. Morse & Co	11,000	23,500
JUNE 15.—By the *Etruria*=Liverpool:		
George A. Alden & Co.	26,000	
Poel & Arnold	27,000	
Otto Meyer	2,500	55,500
JUNE 15.—By the *Finland*=Antwerp:		
George A. Alden & Co	30,000	
A. T. Morse & Co.	10,000	40,000
JUNE 18.—By the *Graf Waldersee*=Hamburg:		
George A. Alden & Co.	11,000	
H. A. Gould Co.	3,000	
Otto Meyer	2,500	16,500
JUNE 18.—By the *Majestic*=Liverpool:		
George A. Alden & Co		20,000
JUNE 20.—By the *Campania*=Liverpool:		
George A. Alden & Co.		6,000

EAST INDIAN.

	POUNDS.	
MAY 11.—By the *Indradeo*=Singapore:		
Robert Branss & Co.		23,000
MAY 25.—By the *Swazi*=Calcutta:		
Poel & Arnold		7,500
MAY 25.—By the *Minnetonka*=London:		
D. P. Crulkshank		7,000
MAY 28.—By the *Thordis*=Singapore:		
Robert Branss & Co.		13,000
JUNE 6.—By the *Seneca*=Singapore:		
William Wright & Co.	15,000	
D. P. Crulkshank	17,000	
Poel & Arnold	4,500	36,500
JUNE 15.—By the *New York*=London:		
H. A. Gould Co.	3,000	
Windmuller & Reolker	4,500	7,500
JUNE 22.—By the *Manila*=Calcutta:		
Poel & Arnold		6,500

PONTIANAK.

MAY 28.—By the *Thordis*=Singapore:		
George A. Alden & Co.	160,000	
Robert Branss & Co.	125,000	
Winter & Smillie	6,000	
Haebler & Co.	55,000	286,000
JUNE 6.—By the *Seneca*=Singapore:		
William Wright & Co	525,000	
Poel & Arnold	270,000	
George A. Alden & Co.	155,000	950,000

GUTTA-PERCHA AND BALATA.

	POUNDS	
MAY 18.—By the *Furnessia*=Glasgow:		
Kempshall Manufacturing Co.		2,500
JUNE 22.—By the *La Gascayne*=Havre:		
To order	4,000	
George A. Alden & Co.	2,000	6,000
JUNE 22.—By the *Celtic*=Liverpool:		
Royal Niger Co.		15,000
BALATA.		
JUNE 3.—By the *Amazonense*=Barbados:		
Middleton & Co.		2,000
JUNE 10.—By the *Rotterdam*=Rotterdam:		
Earle Brothers		4,500
JUNE 10.—By the *Minnehaha*=London:		
Earle Brothers.		2,500

CUSTOM HOUSE STATISTICS.

PORT OF NEW YORK—MAY.

Imports:	POUNDS.	VALUE.
India-rubber	4,611 233	$2,749,892
Gutta-percha	34,841	32,269
Gutta-jelutong (Pontianak)	1.191,2 6	30,710
Total	5,837,663	$2,808,871
Exports:		
India-rubber	40,809	$ 25.661
Reclaimed rubber	61,707	6.611
Rubber Scrap Imported	1.911,662	$106 18

BOSTON ARRIVALS.

	POUNDS
MAY 4.—By the *Michigan*=Liverpool:	
George A. Alden & Co.—African	11,182
MAY 4.—By the *Michigan*=Liverpool:	
Poel & Arnold—African	22,400
Poel & Arnold—Caucho	140,488 162,888
MAY 6.—By the *Saxonia*=Liverpool:	
George A. Alden & Co.—African	22,320
MAY 6.—By the *Devonian*=Liverpool:	
George A. Alden & Co.—African	11,531
MAY 7.—By the *Adria*=Hamburg:	
George A. Alden & Co.—African	13,234
MAY 11.—By the *New England*=Liverpool:	
George A. Alden & Co.—African	4,654
MAY 15.—By the *Carpathia*=Liverpool:	
Poel & Arnold—Caucho	52,753
MAY 19.—By the *Sachem*=Liverpool:	
George A. Alden & Co.—African	11,303
MAY 19.—By the *Sachem*=Liverpool:	
Poel & Arnold—African	24,897
MAY 19.—By the *Anglian*=London:	
George A. Alden & Co.—East Indian	821
MAY 26.—By the *Columbian*=London:	
George A. Alden & Co.—African	2 435
MAY 29.—By the *Saxonia*=Liverpool:	
George A. Alden & Co.—African	5,8 0
Total Imports	321,488

[Value, $172,385.]

MAY EXPORTS OF INDIA-RUBBER FROM PARA (IN KILOGRAMS).

1000 KILOGRAMS=2204.6 POUNDS.

EXPORTERS.	UNITED STATES.					EUROPE.					TOTAL
	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	
Cmok, Schrader & Co.	24 310	5,782	28,091	—	58,183	62,200	4,080	24,700	—	90,980	149,163
Frank da Costa & Co.	90,923	13,767	119,822	600	225.112	49,662	4,628	6,288	—	60,578	285,690
Adelbert H. Alden	37,440	5,380	31,030	—	73 85	15,210	1,970	15,620	740	33,540	107,390
Kanthack & Co.	—	—	—	—	—	—	—	4,619	—	4,619	4,619
Neale, Staats & Co.	5,614	886	24,197	—	30,694	3,060	170	502	55,570	59,302	90,001
Denis Crouan & Co.	4 035	667	4,604	—	9,306	7,871	1,314	1,136	—	10,321	19,627
R. Suarez & Co.	—	—	—	—	—	57,503	4,832	5,926	2,353	70,674	70,674
Pires, Teixeira & Co.	8,458	—	5,501	—	13,959	7,093	—	1,148	—	8,241	22,200
Sundry small shippers	3,967	279	4 931	—	9,177	9,822	1,759	6,507	—	18,088	27,265
Direct from Iquitos	—	—	—	—	—	8,644	1,214	5,922	174,373	190,153	190,153
Direct from Manáos	213.654	73,958	79,675	236,515	603,802	260,867	31,213	76 770	165,609	534,459	1,138,261
Total for May	388,401	100,721	297,851	237.115	1,024,088	481,992	51,180	149.138	398,645	1,080.955	2,105,043
Total for January-April	3.376,482	849,983	2 148,079	659,854	7,034,398	3,913,630	477,726	1,019,589	1 573,788	6,984.733	14,019,131
Total, July-December	2,724,574	649,906	2,172,215	78,621	5,625,318	4,011,602	609,423	1,113,862	500,474	6,235,361	11,860,679
TOTAL, CROP YEAR	6,489,457	1,600,610	4,618,145	975,592	13 683 804	8,407,224	1,138,329	2,282,589	1,472,907	14,301,049	27,984,853

OFFICIAL STATISTICS OF CRUDE INDIA-RUBBER (IN POUNDS).

UNITED STATES.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
April, 1903	3,874,693	130,130	3,744,563
January-March	16,197,808	868,965	15.328,843
Four months, 1903	20,072,501	999,095	19,073,406
Four months, 1902	19,789,635	1,238,134	18,551,501
Four months, 1901	23,343 062	1,060,360	22.282,702

GREAT BRITAIN.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
April, 1903	4,888,464	3.428,096	1,460,368
January-March	15,690,304	9,881,648	5.808,656
Four months, 1903	20,578,768	13,309,744	7,269.024
Four months, 1902	19,686,688	10,074,960	9 611,728
Four months, 1901	18.206,964	9.513 616	9,693 348

GERMANY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
April, 1903	3.317,600	1,590,380	1,727.220
January-March	9.451,640	3.483,260	5,968,380
Four months, 1903	12,769,240	5,073,640	7,695,600
Four months, 1902	9.933,220	3,278,220	6,655,000
Four months, 1901	8 477,480	1.873,300	6 604,180

ITALY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
April, 1903	298,860	—	298,860
January-March	341.220	25 960	315,260
Four months, 1903	640.080	25,960	614,120
Four months, 1902	515,020	42 460	472,560
Four months, 1901	627,220	69,300	557.920

FRANCE.*

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
April, 1903	1,721,500	677,380	1,044,120
January-March	3.837,680	2,101,880	1,735 800
Four months, 1903	5,559,180	2,779,260	2,779 920
Four months, 1902	6,556,440	2,766,720	3,789,720
Four months, 1901	6,304 980	3,193,080	3 111,900

AUSTRIA-HUNGARY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
April, 1903	217,580	3,520	214,060
January-March	742,060	8,800	733.260
Four months, 1903	959,640	12,320	947,320
Four months, 1902	916,520	1,980	914.540
Four months, 1901	762.080	7.040	755.040

BELGIUM †

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
April, 1903			
January-March	3.536,883	2,562,087	974.796
Four months, 1903			
Four months, 1902			
Four months, 1901			

NOTE.—German statistics include Gutta-percha, Balata, old rubber, and substitutes. French, Austrian, and Italian figures include Gutta percha. The exports from the United States embrace the supplies for Canadian consumption.

* General Commerce. † Special Commerce.

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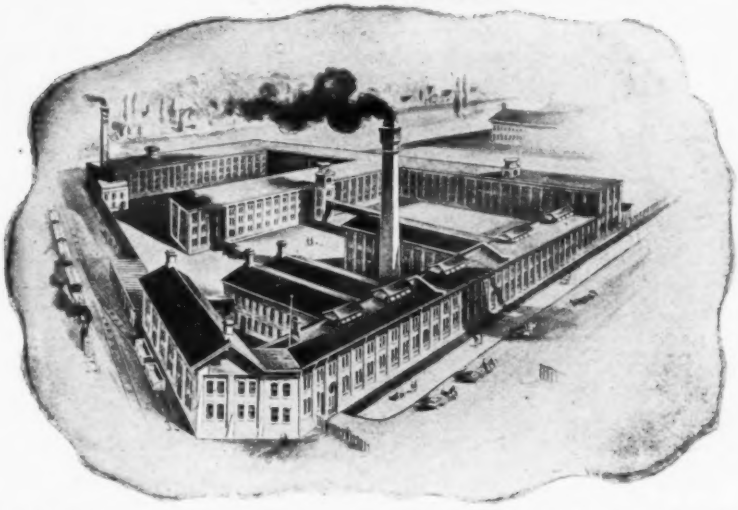

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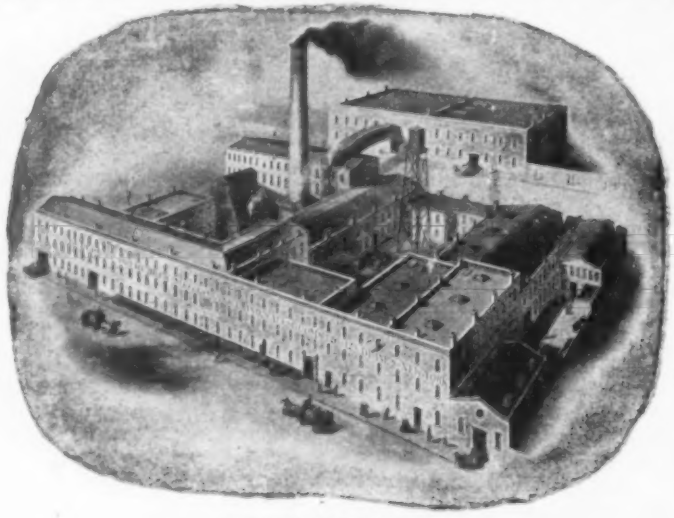

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